

The
Association of Special Libraries and
Information Bureaux

Report of Proceedings

of the

ELEVENTH CONFERENCE

held at

Somerville College, Oxford

SEPTEMBER 21st to 24th, 1934

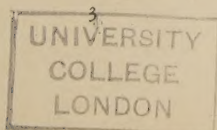
THE OBJECTS OF THE ASSOCIATION ARE: To examine, foster, and co-ordinate the activities of special libraries, information bureaux, and similar services; to act as a clearing-house for these services; to develop the usefulness and efficiency of special libraries and information bureaux under whatever titles they may function; and generally to promote, whether by conferences, meetings, or other means, the wider dissemination and the systematic use of published information.

The Association aims at assisting members who desire information of any kind to get into touch with the appropriate library or other body specialising on the subject; it does not itself attempt to build up any centralised organisation to provide the detailed information direct.

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The Association of Special Libraries and Information Bureaux

16, RUSSELL SQUARE, LONDON, W.C.1.

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- 2 MISS GWLADYS ALLCHIN School of Rural Economy, Oxford.
- 3 MISS F. ASHBY Charles W. Hobson, Ltd.
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- *7 A. B. BLAKE, B.Sc.,
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- 9 S. C. BRADFORD, D.Sc. The Science Library.
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- 16 WM. C. DALGOUTTE. Special Libraries Association of America,
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- 17 E. SALTER DAVIES, C.B.E., Kent Education Committee.
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- 18 MISS B. M. DENT, M.Sc. Metropolitan-Vickers Electrical Co., Ltd.
- 19 MISS B. DIBBEN Ministry of Labour.
- 20 MISS E. M. R. DITMAS, M.A. Association of Special Libraries and Informa-
tion Bureaux.
- 21 MISS V. G. DOUIE London and National Society for Women's
Service.
- 22 JAMES J. EATON The *Yorkshire Post*.
- 23 MISS MARJORIE L. FINNIS, League of Nations Union Library.
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- 24 G. ELLIS FLACK, M.A. Nottingham University College Library.
- 25 MISS M. R. FLETCHER, B.Sc. Royal Arsenal, Woolwich.
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- 29 S. W. GIBSON British Thomson-Houston Company, Ltd.
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- 33 C. H. GRAY International Executive Council, World
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93 MRS. H. RICHARDSON.
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The Association of Scientific Workers.
Royal Photographic Society.
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The Clarendon Press.
The National Central Library.
Manchester Public Libraries.
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Birmingham University Research Committee.
Brown-Firth Research Laboratories.
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Mond Nickel Company, Ltd.
British Cast-Iron Research Association.
British Commercial Gas Association.
National Union of Teachers.
Gas Light and Coke Company.
Board of Trade.
British Non-Ferrous Metals Research Asso-
ciation.

- 95 DAVID E. ROBERTS.
 96 O. W. ROSKILL.
 97 SIR MICHAEL E. SADLER,
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 98 COUNCILLOR ALEXANDER SANDISON, O.B.E., M.D.,
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 107 ALDERMAN C. SQUIRE Leicester Public Libraries.
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 113 JAMES E. WALKER, F.L.A. Hendon Public Library.
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 134 MISS R. W. JAMES. Agricultural Economics Research Institute.
 135 C. S. ORWIN, M.A. Agricultural Economics Research Institute.
 136 H. RUTHERFORD PURNELL. Adelaide Public Library, South Australia.
 137 MISS H. SHARPLEY. Lady Margaret Hall, Oxford.
 138 E. E. SKUCE, M.A. Oxford City Library.
 139 MISS HONOR SPENDER.
 140 A. VAN DE PUT. Victoria and Albert Museum Library.

* Prevented from attending.

Editorial Note.

THE papers that follow constitute a record of the proceedings of the Eleventh Conference of the Association. Written papers were, as a rule, prepared in advance by the speakers, and these have been reprinted in full. No verbatim reports of the discussions were made, but, with the aid of notes taken by the Stewards of the meetings and provided by the various contributors to the discussions, as full a report has been printed as the limitations of space permit. It should be noted that where contributions have been summarised because of this limitation any reader interested may see the full report at the ASLIB office. The editors take this opportunity to acknowledge their indebtedness to all those members of the Conference who have sent in notes of their contributions.

An index to the contents of the Report is printed at the end. Copies of the Reports of the ten previous Conferences are still available, and the fifth Report contains an index to the first five.

These Reports are indexed in the Industrial Arts Index of The H. W. Wilson Company, of New York.

16, RUSSELL SQUARE,
LONDON, W.C.1.

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Notgemeinschaft der Deutschen Wissenschaft.

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Reception and Opening Session.

Delegates were received before dinner by SIR CHARLES SHERRINGTON, Past-President of the Association, by SIR RICHARD GREGORY, President-elect, and by the Council.

After dinner the presidential address was given by SIR RICHARD GREGORY, who took as his subject "Science in the Public Press."* The chair was taken by SIR CHARLES SHERRINGTON, who referred in his introductory remarks to the unique position held by Sir Richard, whose qualifications specially fitted him to deal with this particular subject.

Many took part in the discussion following this address. DR. V. COFMAN hoped to see an organisation founded in the country which would be similar to the U.S.A. "Science Service." He was followed by MR. DONALD CALEY, who stated that during the last two years of his five years' experience as a scientific journalist in Fleet Street he had found a quite noticeable increase in the demand for news on scientific subjects, particularly medicine. He was fairly optimistic about the success of a Science News Agency, even from the business point of view. If the scientific world supported it at first, he thought that after a few years it would be able to run comfortably on what the newspaper world would subscribe to it. Turning to a comparison between the British and American newspapers, Mr. Caley said that the British had much to learn where the presentation of scientific progress is concerned. The *New York Times* has a science editor, a scientific reporter specially delegated to cover any important scientific meeting in America, and a journalist working in London for the paper who specialises in science.

MR. H. H. JOHNSON stated that he considered that it was not only science items that were often inaccurately reported. Some papers distinguish the reliable from the unreliable by classing the former as "official." The claim that fifty per cent. of the university students in this country are taking science indicates that greater weight should be given to science in the news and in other public affairs.

DR. PRATT INSH said that the method of approach is important. Papers might utilise the wide interest in modern technical progress—e.g., telegraphed pictures, wireless, the cinema—to lead up to treatment of scientific advances in a more understandable way.

MR. C. S. ORWIN said that he thought that scientific people should attempt more often to tell the story of their work in plain language. It is necessary to employ highly-technical language, "jargon," for the sake of brevity and clarity in original scientific papers, but it should be possible to convey much of this in plain English to the world at large.

MR. B. M. HEADICAR stated that the aim should be to educate the public so that the provision of "what the public wants" may include proper treatment of science and other intellectual subjects.

PROFESSOR R. S. HUTTON, in proposing a vote of thanks to the President, gave some examples of the treatment of the subject in France and the U.S.A. Apparently there was quite a remunerative field for the "free lance" scientific journalist which might be developed and lead later to a properly organised press science service.

* Printed in full on pp. 17-28.

The Year's Work of ASLIB.

The Tenth Annual Conference was held at Wills Hall, Bristol, from September 22nd to 25th, 1933, and the innovation of holding the Conference at a provincial centre proved a success which should encourage future arrangements in other parts of the country. The contacts established with a fresh circle of institutions and firms have a value which cannot be measured by a mere comparison of the numbers of delegates attending Conferences in successive years.

The programmes of the Annual Conferences and the reports of the varied activities of ASLIB during recent years fully prove the distinctive character of the Association and its value as representing some of the interests of those concerned in administering and in using special libraries and information bureaux. Considerable value is attached by the Council to the wide scope of the work which ASLIB is from time to time able to undertake, and the extent to which this is still handicapped and delayed by insufficient financial resources is deplorable.

ASLIB has suffered a heavy loss this year through the death of Colonel Sir Frederic Nathan in December, 1933. Sir Frederic had been Vice-Chairman and Hon. Treasurer of the Association from 1931 and ASLIB owes much to his support and advice during the recent difficult years.

The Council is gratified in being able to report that Sir Richard Gregory, Bart., F.R.S., has consented, upon their urgent appeal to him, to accept nomination as President for the forthcoming year and to attend the Conference at Oxford.

THE ASSOCIATION'S COUNCIL AND COMMITTEES.

The first meeting of the new Council, elected at the last Annual General Meeting, was held on November 13th, 1933, when Professor R. S. Hutton was re-elected Chairman and Dr. S. C. Bradford was elected as Vice-Chairman. During the year seven meetings of the Council were held. In January Mr. L. Honeyburn resigned his membership of the Council consequent on his retirement from his position as Librarian at Imperial Chemical Industries, Ltd. In July the Council also received with regret the resignation of Mr. A. Brammer of the Association of Supervising Electrical Engineers.

The Council appointed a Committee consisting of Dr. S. C. Bradford, Mr. R. Brightman, Miss B. M. Dent, Mr. J. J. Eaton, Mr. B. M. Headicar, Mr. J. E. Hodgson, Mr. J. G. Pearce and the Honorary Officers, to make arrangements for the 1934 Conference. Later Mrs. C. S. Orwin was co-opted, and this Committee has held several meetings to discuss the policy and programme of the Conference, which it is hoped will prove satisfactory to all members despite their diverse interests. This year again the Association has been fortunate in securing for the evening sessions lectures which are of a broad general character but which indirectly bear on our field of work.

In addition to the Conference Committee, the Council appointed various other sub-committees which are mentioned elsewhere in this report.

FINANCE AND MEMBERSHIP.

The audited Annual Accounts for the year ended June 30th, 1934, have been circulated to all members and will come before the Annual General Meeting for consideration.

As a result of economies in expenditure, the year ended with a balance in hand of £52 and there was a small excess of income over expenditure for the first time since 1929. On its present restricted scale of operations, therefore, the Association is solvent and it seems reasonable to believe that the temporary arrest in progress may have ended. The net membership figure has remained practically stationary at 290 and it is significant that the number of resignations, already partly balanced by new enrolments, in the second half of the year numbered only eleven or less than one-third of those of the corresponding period in 1933.

As foreshadowed in the report last year, the Council, through its Membership Committee, has organised a systematic and comprehensive campaign for increased membership which is being carried out as opportunity occurs. The attention of all members is drawn to the urgent need of further support, as development of our work is greatly handicapped by lack of adequate funds. Personal appeals by individual members are likely to be much more effective than any broadcast propaganda, and the Council earnestly requests all members to do their utmost to persuade others to give their support to the Association. Members may find the new leaflet, briefly indicating the objects and services of ASLIB, and the new list of members helpful in this connection.

THE ASLIB ENQUIRY BUREAU.

The Bureau continues to answer enquiries about the most widely differing subjects, and the records show that there is a steadily increasing use of this service. In connection with this it would be a considerable help if, when a member has been put into touch with a source of information, a card could be sent to ASLIB stating whether the required information was obtained. We do not want to ask members to undertake unnecessary correspondence, but accuracy in the details of our records would be greatly helped by such acknowledgments. It is perhaps more necessary that we should know when satisfactory information was *not* obtainable, in order that a note of the fact may be made for future reference.

PANEL OF EXPERT TRANSLATORS.

Judging by enquiries received, it would appear that the knowledge of the Panel is slowly spreading, but it is still not as much used as it might be. Access to competent translators with more than a superficial knowledge of the subject to which the matter to be translated refers must frequently be of vital importance both in industry and research, and the ASLIB panel system attempts to provide this introduction.

ASLIB would be glad to hear of those who are qualified to undertake verbatim reporting of conferences in foreign languages since we have been asked more than once to supply translators for that purpose. Knowledge of foreign shorthand is usually required.

ASLIB DIRECTORY.

We are glad to be able to report that the sales of the Directory during the year were twenty-two copies, fourteen by the Oxford University Press and eight by the Association itself. This is a very considerable increase on last year's sales.

Emphasis must be laid on the fact that the ASLIB Directory, despite its publication in 1928, is by no means obsolete. The records at the Association's office make it possible for all members to secure access to a vast amount of supplementary information of a similar character, which has been systematically recorded. The publication in the Bulletin of Additions and Amendments also serves to keep the Directory up to date.

"ASLIB INFORMATION."

The publication of the quarterly bulletin continues, and since members have asked for additional copies on more than one occasion, we conclude that they have found its contents of value. We are grateful to those who have contributed articles at various times.

INDEX TO UNPUBLISHED INFORMATION.

The Committee appointed to deal with the ASLIB Index of Unpublished Information was re-elected at the first meeting of the new Council held on November 13th, 1933, and consisted of the following: Miss M. E. Cleeve, Mr. B. M. Headicar, Mr. A. F. Ridley, Mr. H. L. Robinson, and Mr. C. A. Spencer. Later Mr. A. Farquharson of the Institute of Sociology was co-opted.

In accordance with the decision of the Committee to concentrate at first on the indexing of the unpublished theses for higher degrees of the British Universities, a circular letter was sent to the Universities early in the year. This met with a very friendly response and a good deal of material has already been received. It is hoped that, in time, all the British Universities will co-operate in this scheme, but in view of the fact that the compilation of the Index must necessarily be rather slow at first, those few Universities which did not reply to the circular have not been re-approached as yet. In the same way no great efforts have been made to collect material from non-University sources, although material that has been spontaneously offered has been received with gratitude.

After considerable deliberation, the Committee decided that the Index should be arranged according to the Universal Decimal Classification and the Science Library is kindly co-operating in the classification of the scientific items. At the same time an alphabetical subject index to the chief divisions is being developed so that the contents of the Index are easily consulted by all.

THE ABSTRACTS ENQUIRY.

The ASLIB enquiry into the Abstracting of Foreign Literature, which was reported upon by Mr. A. A. Eldridge at the 1932 Conference, proved that co-operation with other bodies for the purpose of obtaining information on certain specific points could have mutual value. Since it appeared that further investigations could be usefully undertaken by ASLIB, the Council at its first meeting on November 13th, 1933, appointed a fresh Committee to consider the subject and the

following were elected to serve on it: Mr. R. Brightman, Mr. C. H. Gray, Mr. S. C. Guilan, Professor R. S. Hutton, and Mr. H. L. Robinson.

The Committee decided that investigations might be carried out concerning the costs of printing and publishing Scientific Abstracts and the possibilities of effecting economies through the pooling of experience. The following representatives of societies interested in the matter accepted an invitation to a meeting with the ASLIB Committee: Mr. T. F. Burton (Bureau of Chemical Abstracts), Sir David Chadwick (Imperial Agricultural Bureaux), Professor J. Mellanby (Physiological Society), and Mr. H. G. Solomon (*Science Abstracts*). The basis of possible co-operation and interchange of information was discussed and is being actively followed up. It is hoped that this new venture will lead to fruitful results in the coming year.

In the meantime certain work arising out of the 1932 investigation has been carried on at the ASLIB Office. An enquiry had been made into the various systems of transliterating the Russian characters into the Latin alphabet. Information concerning about a dozen varying systems now employed had been collected and it was hoped that it might be possible to issue a comparative table that would be of use to members of ASLIB. However, correspondence is still in progress between certain members of ASLIB and Russian institutions interested in this question, and it seemed better to wait a little longer in the hope of an authoritative statement from the Russians themselves.

ASLIB is also preparing a guide to the chief periodicals which publish scientific abstracts; it is hoped that this may be completed early in 1935.

THE BUSINESS MAN'S DIRECTORY.

Already in 1931 a Committee was appointed by the Council to consider the possibility of preparing a Directory to Sources of Information for the whole field of commerce and industry. It was felt that a publication more limited in scope but more intensive in treatment than the ASLIB Directory of 1928 might prove of great value in fostering the progress of business in this country.

Considerable progress was made in the preliminary planning of this scheme in which the late Sir Frederic Nathan took an active part. The illness and retirement of the former General Secretary, Mr. S. S. Bullock, made it necessary to postpone ASLIB's activities in this direction. Nevertheless, during the year a meeting has been held by the Committee, consisting of the following: Mr. A. A. Gomme, Mr. B. M. Headicar, Professor R. S. Hutton, Mr. H. H. Johnson, and Mr. A. F. Ridley. Contact has also been secured with the Government Economic Advisory Council which has expressed interest in a scheme of this nature.

The main source of difficulty is financial support, since the editing of a directory of this nature would require the employment of additional staff to carry out the plans which the ASLIB Committee has already available in an advanced state.

REPORT OF THE LANCASHIRE AND CHESHIRE BRANCH OF ASLIB.

Miss B. M. Dent, Secretary of the Lancashire and Cheshire Branch of ASLIB, sends the following report:

This year two meetings have been held for members and their friends.

At the first, held on November 22nd, 1933, at the Textile Institute, Manchester, Dr. J. C. Withers, who is in charge of the Information Bureau of the British Cotton Industry Research Association, and Mr. H. L. Robinson, Editor of the *Journal of the Textile Institute*, gave half-hour talks describing the work of their information services. These talks are summarised in the March issue of *ASLIB Information*.

The second meeting, held on March 21st, 1934, was of a similar character, the speakers this time being Mr. W. D. Potter, of the Intelligence Department, William Deacons Bank, Ltd., and Miss B. M. Dent, Librarian in the Research Department, Metropolitan-Vickers Electrical Co., Ltd. Each speaker outlined the special needs of the whole organisation and described the way in which the information service has grown up to meet those needs. An account of this meeting will be found in *ASLIB Information* for June.

Instead of holding a public meeting this year, the Committee decided that they could best help the Council's membership campaign by drawing up a list of potential members to whom a letter of invitation to join ASLIB, together with appropriate literature, could be sent. They also undertook to make personal appeals in certain cases.

The Branch has suffered a great loss by the death in April of Mr. W. D. Potter, of the Intelligence Department, William Deacons Bank, Ltd. Mr. Potter had been a member of the Branch Committee since its inception and had always been a most helpful colleague in every way.

At the close of this summary of the year's work, the Council wishes to express its sincere thanks to Sir Charles Sherrington on his retirement after serving as President of the Association for the last two years. His interest and support of the work of the Association has been very greatly appreciated.

R. S. HUTTON,
Chairman.
E. M. R. DITMAS,
General Secretary.

Science in the Public Press.

By SIR RICHARD GREGORY, BART., F.R.S.

[Presidential Address delivered on September 21st, 1934, at the Eleventh Annual Conference of the Association of Special Libraries and Information Bureaux, at Oxford.]

• Three separate factors—Science, the Public, and the Press—are involved in the consideration of the subject of this address. Whatever Science has to say, and whatever facilities are afforded by the Press for saying it, the decision whether to read or pass over what is offered rests with the Public. Knowing that its verdict is final, the policy in most newspaper offices is to publish matter which will be acceptable to as large a section of the community as possible. From a business point of view, this is the only sound principle to be followed, especially as the advertising revenue is largely determined by the number of the net sales. Among the readers of all newspapers, however, are many types of mind, and a variety of interests; and a wise editor endeavours to appeal to most of them. He can secure distinction for his journal by being ahead of some of his readers in the attention given to particular subjects, but he must not be too much ahead in most of the subjects for most of his readers if the journal is to survive and its circulation be maintained or increased. This is true of all periodicals, and should be borne in mind in discussions of the relations of science to the Press or of the Press to science.

The function of a daily or weekly newspaper is to provide reading and readable matter for a general or particular public—the main part being intended for all who care to read and the special columns for those whose interests are in particular fields of thought, work, or sport. Usually the matter is presented in the form of (1) news items dealing with occurrences or opinions factually treated; (2) articles of a more extended character, or essays, dealing with their subjects in a less summary fashion and more informative than is necessary or possible in the news items; and (3) leading articles written or inspired by or through the editor and ostensibly setting out the considered view of the journal and the interests it represents.

It is scarcely too much to say that most of the matter published in newspapers is regarded as being of an ephemeral character, though a more correct view would be to regard the attention given to it by its readers as ephemeral. The durability and value of an item of information or news given in a newspaper depend entirely upon the previous knowledge, the interests, and the occupation of the person by whom it is read. The discovery of a new comet, or of a new constituent in atomic structure, may be of vital concern to astronomer or physicist, but of passing interest only to the man in the street. The discovery of a new process in manufacture, which may affect permanently the lives of thousands, may pass under his eye almost unheeded.

The object which a newspaper has in view primarily is to get sold and read. This is no mere cheap cynicism. The whole format of a

newspaper—size, quality of paper, type, arrangement, illustration, and make-up generally—are directed to this end. It must attract readers by its general appearance in the first instance. This is imperative, for a paper that does not attract constantly is a paper without influence or with very little. But it must add to this attraction of form the appeal of the interest in its news. It is in this sense that it is true that the newspaper, especially the cheaper and lighter press, in its attempt to gauge what class of matter will hold its readers and increase their number may be said to follow and not to lead the opinion of its public. Hence also, with certain qualifications, the attention which the Press can afford to give to science depends upon the public interest and demand for news about it. Newspaper editors and their staffs aim at supplying these needs; it is they who have to be convinced that a large section of the public has a genuine interest in scientific subjects, and that this interest is sufficiently strong to justify giving a fair amount of attention to developments in science. Science news may be of high importance and wide interest without being a “scoop” or a “sensation”; and editors should realise that the romance of modern scientific achievement need not involve a sacrifice of truth.

If it be admitted that science, and more especially scientific progress and discovery, are of interest to the public, tradition helps to define the attitude which will be taken by the Press. Science is “news”; it is matter fitted from time to time, as occasion arises and its interest becomes topical, for extended treatment by informed writers and specialists in special articles; and it is matter for editorial comment, more especially when it impinges upon public concern in connection with the health and well-being of the community or in its application to legislation, administration, or commerce and industry.

It is, however, difficult to estimate the extent to which the public as a whole, reading the daily and weekly newspapers, expect to be informed in its own language of important developments in, for example, such intricate matters as atomic constitution, quantum theory, relativity, or the significance of chromosomes. The attention given to such subjects in the public press depends, of course, largely upon the type of journal; and what may be published appropriately in *The Times* would be out of place in the less substantial daily papers. Most editors know their business and publish what experience has taught them their readers like: when they do otherwise, the circulations of their journals suffer.

It ought not to be too much to expect that every daily or weekly newspaper of importance should have upon its editorial or reporting staff someone capable of dealing intelligently with scientific subjects in the same way that special attention is given to other activities. Our complaint is that, with very few exceptions, little attempt is made in the public Press to secure adequate or accurate treatment of scientific news. In the whole kingdom there are apparently not a dozen daily papers which have on the editorial or reporting staffs a single member with a science degree, or even with sufficient elementary knowledge to pass a School Certificate examination in General or Every-day Science. While these conditions exist, the public will lack in science the enlightened guidance which they receive in other matters.

In the newspaper world it is recognised that information and guidance in financial matters should be entrusted to financial experts. The services of similar special critics of art, music, and drama are used in the production of the chief daily and weekly newspapers ; and sport is now so highly specialised that separate contributors are appointed to deal with racing, golf, cricket, football, tennis, and other branches of it. No editor of a leading newspaper would think of entrusting his columns devoted to any of these activities to a reporter or other contributor unfamiliar with the principles of the subject or the elementary rules of the game. This, however, is what is usually done when reports are required of scientific meetings, or a scientific man is interviewed upon the significance of a particular discovery. It is most rare for a reporter or interviewer sent to deal with a scientific matter to know even the alphabet of the subject. The result is usually that trivial points are given undue attention while the main matters are misrepresented, or expounded with irritating confusion.

Art and letters, music and religion, have their interpreters in the periodical Press and cannot complain of any lack of attention to their works or teaching. In its human interests, science can make just as wide an appeal as any of these, but there are few who can review scientific matters with the independent and critical mind which estimates the value of opinions or performances in other spheres. A bare announcement of a scientific discovery may be worth publication as an item of news, but not much more so than a report that an important creative work has been completed by an eminent artist or man of letters. Supplementary to such news, reasons must be given why the discovery or work is of particular significance ; which means that its characteristics must be clearly described by a competent writer. While it is easy enough to secure contributors able to express opinions, with more or less authority, upon works in literary fields, no scientific contributor would presume to deal similarly with original work in the realm of Nature unless he possessed first-hand knowledge of the particular subject.

There are a fair number of writers who can make abstracts or digests of scientific papers, or even provide a statement of the main points intelligible to readers without very special knowledge, but something more than condensations of this kind is needed before science news will find a regular place in the public Press. Most people have yet to learn how and why science and scientific thought are the determining factors in the chief problems of progressive life, and the bare record of new results can do little to enlighten them. To be a successful expositor of science, it is necessary to be suggestive as well as accurate, to show human contacts with the facts described, and enable the reader to appreciate the wide interest of the particular subject presented. In recent years, much attention has been given to the cultivation of appreciation of art, music, and literature ; with the result that rich fields of study and delight have been opened to many people formerly unfamiliar with them. Something of the same spirit and intention is required of interpreters of science if its work and development are to be followed with enlightened pleasure. No discovery should be described in isolation, but in relation to its scientific background.

It must be acknowledged that the attitude of the individual scientific worker—and here allusion is made more particularly to the scientific worker who is engaged in research—is by no means universally well disposed towards newspaper publicity. Quite apart from the danger, which, after all is perhaps not really very great, of premature disclosure of results either before they have been thoroughly tested and digested, or before it has been possible to secure them against illegitimate exploitation, the scientific worker often has reason to accuse the popular Press of superficial treatment which is misleading, or of giving to the world a garbled version of the material passed to it, which is no less harmful to the interests of scientific advancement. As regards the correctness of the information published, though it is true that the special equipment of those who collect scientific news usually leaves much to be desired, it should be remembered that each individual has to cover a wide range of subjects. When the very technical character of the material which is embodied in the Press matter sent out from congresses, scientific meetings, and laboratories is considered, it is perhaps remarkable that the reporter achieves such success as he does.

Whatever may be the attitude of the individual man of science towards publicity, it is obvious that his objection is not universal, but is directed towards publicity of a particular kind. For publication of his results is normally an essential of his work. Not only must his own results be published and made accessible—not primarily that credit may accrue to him, though that is not without its importance—but in order that his methods and results may be probed and tested by his fellow workers before they can be added to the accepted mass of facts and theories which we call “science” as a whole. Further, his work when thus made accessible to his fellow workers serves as a stepping-off place for further advance. In the same way he himself makes use of the published results of others.

To meet these needs of the research worker, and also of the man of science who, while himself not actually engaged in research, may for professional reasons have to keep himself abreast of progress, an elaborate machinery has been built up. For verbal discussion there are learned and scientific societies and congresses, the latter usually international in character, attracting members from all quarters of the globe. Then in the matter of publication each of these organisations, as a rule, publishes a report of proceedings, and although these are intended primarily to record only their respective proceedings and meetings, most of them throw open their pages for other contributions not all necessarily written by their own members. Further, there are independent scientific publications devoted entirely to scientific subjects, and a host of technical periodicals dealing with the application of science to practical affairs in various aspects. Hence the scientific worker may be said, generally, to be very fully provided with opportunities for the publicity which is essential for the record and discussion of his work; though from this point of view the public Press is of no assistance to him.

On the other hand, the publications which are essential to the scientific worker are of no advantage to an interested public which is without technical knowledge, and often technical knowledge of an advanced character. Not only is the language abstruse—that is a

minor difficulty—but the argument is allusive and proceeds on the assumption of a background of knowledge of fact and theory which are the property of the expert only. Before this can become intelligible to the uninstructed it must be translated, expanded, and expounded.

All this material is “news”—“news” which the Press is anxious to have when once its bearing is understood, and “news” which appeals readily to the public when placed before them in a form which can be absorbed. Yet very few scientific men have the time or inclination, and indeed not many have the ability, to transform scientific material into such a form as will be understood and appreciated by the plain man. This is a misfortune in more ways than one. Consider, for example, the study of archaeology. One of the most remarkable features in scientific journalism of the last ten or fifteen years has been the extraordinary interest which has been taken by the newspaper public in the progress of research into man’s past. Anything dealing with the descent of man, prehistoric man in any part of the world, the archaeology of Egypt, Mesopotamia, or America, or elsewhere has been followed with the closest attention. Articles by experts have been and are still welcomed in the columns of the daily Press on almost any aspect of the subject. The reason is not far to seek. The technique of archaeological research, elaborate as it now is, consists of processes which are familiar to everyone; and the language in which the progress of excavation is described and the results expounded is the language of the every-day life of the average educated man.

Most scientific workers, however, have no desire to discourse to the laity and no capacity for transforming the special vocabularies of their subjects into the simpler—and not necessarily sensational—forms required by many general readers. It ought, therefore, to be gratefully recognised that the lay writer who is sufficiently well informed to present a scientific subject in attractive literary style, and accurately as well, is performing a very useful purpose for science. The investigator who can do this for advances to which he has himself contributed, and on which he can express himself with authority, can always find a genuine welcome in the lecture hall or in the periodical Press. Only rarely, however, are the faculties of research and exposition so closely combined; and it is almost too much to expect them to be. After all, the first business of the scientific investigator is to discover—to add to the sum of natural knowledge—and if he describes his work clearly and in terms which are intelligible to his fellow workers he has done his part.

A scientific investigator is usually too much engrossed in his special subject to pay much attention to style or method in the presentation of his results. His vocabulary is that of other workers in the same field; and if he makes his work clear to them, he is satisfied. In a contribution to a scientific society the use of technical terms and symbols can, therefore, be justified. If, for example, an author is dealing with a highly-specialised development in mathematical physics, he has a right to assume that his audience, or his readers, are familiar with the language he uses. He can only be blamed if he fails to make himself intelligible through confused thinking or want of care in arranging his ideas in logical sequence or expressing them concisely. Language cannot be rightly called “jargon” when

it is the usual means of communication between workers in a recognised department of science, but only when it is confused or unintelligible. Every profession has its special terms and phraseology ; and scientific investigators have just as much right or reason to address one another in what may seem slang as have stockbrokers, bookmakers, or even lawyers. From the literary point of view, such barbarisms may be abominable, but within their particular field they are expressive and concise, and therefore appropriately fulfil the function of language.

It is unfortunate that the pursuit of science is commonly regarded by representatives of the periodical Press as a mysterious occupation, and experiments as magic comparable with conjuring tricks. The fault probably lies in our schools and universities, from which it is still possible, and usual, for students to pass out with distinction into the world without any acquaintance with what science has done, and is doing, to shape human destiny. It is still assumed that a man may have pretensions to culture and yet know nothing of the natural world around him. Science may have been a sealed book to him throughout his educational career, yet in whatever field of activity he is afterwards engaged he will frequently be faced with problems requiring scientific knowledge for their solution, and should, therefore, understand when and how to seek scientific guidance. We should be sorry to suggest that specialised instruction in science should be forced upon every student in school or university—though that would only be following the classical tradition—but we do urge that no one to-day can justly claim to have had a liberal education without having been introduced to the methods of scientific inquiry, the development of scientific principles, and the social and economic consequences of scientific discovery.

Whatever the ideals of a people, it is doomed to stagnation unless its science is living, and is continually informing every activity of national life. It can scarcely be said that, in the educational training of our citizens, recognition of this factor of progress is given to a degree at all commensurate with the national need, or that the responsible Press of the country is doing anything to make the public understand the position which science occupies in the fabric of civilisation. Knowing nothing of science, and with the distrust of the expert which is our national characteristic, editors and sub-editors of popular daily papers are unable to distinguish between the assertions of pseudo-scientific charlatans and the conclusions reached by scientific investigators as the result of careful inquiry. A sensational announcement is therefore preferred to a sober and accurate account of a scientific advance ; and blunders are given harmful circulation which would be thought amazing if perpetrated in a like fashion in the domains of literature or art or history. Such lack of knowledge of scientific facts and principles might be excused in the multitude, but something more should be possessed by those who have had the advantage of higher education, and ought, therefore, to be impressed by the activity upon the quays where rich argosies of scientific exploration are continually being unloaded.

It is desirable also to cultivate in the mind of the public an understanding of the purposes for which men devote their lives to scientific experiment and inquiry. The aim of the pursuit of pure science is

the discovery of natural truths, and this is just as laudable a desire as the search for beauty ; for, as Keats told us :

“Beauty is truth, truth beauty ; that is all

Ye know on earth, and all ye need to know.”

Too little attention is given to this aspect of the quest for knowledge and too much to the actual results achieved, which often represent the least interesting part of the story of why the quest was undertaken and how the goal was reached. The human interest in exploration in any field lies in the log book of the journey, the difficulties met, and how they were overcome, until the object of the expedition is attained. The public may not be able to understand clearly why a scientific inquiry is undertaken, any more than it understands why attempts should be made to reach the summit of Mount Everest, or why for generations explorers should have competed with one another in the race to the north and south poles. Human aspiration and the spirit of conquest are the main motive power of all such endeavours, and not the practical advantages which may accrue from the results achieved. So should the objects of research in the realm of pure science be regarded, and from this point of view should the thoughts and experiences of the adventure be described.

The acceptance of this principle means that the best narrative of an exploration is one written by the explorer himself, who alone can have intimate knowledge of experiences met with during the expedition, or describe the considerations which led him to move in one direction or another. This is usually understood, and that a plain record of travel, even though given and expressed in commonplace phrases, makes much closer contact with human feeling than the most brilliant literary effort of a spectator or historian. It follows that as scientific investigators themselves possess the first-hand knowledge of the meaning, the methods and the conclusions of their researches, they are best qualified to translate this knowledge to the public. Few men of science care, however, to be diverted from their work in the field or laboratory in order to share the Press publicity equally afforded to assertive paradoxers and discoverers of marvels, which if true are not new and if new are not true. Though his story may well be worth telling, an original investigator usually shrinks from entering the province of popularisation of science and has a feeling that to do so involves a loss of dignity, as well as a loss of respect from his colleagues.

So long as this reluctance prevails among scientific workers, they must expect the exaggerations, inaccuracies, and omissions with which scientific matters are commonly handled in the periodical Press. A not inconsiderable section of the public is prepared to be interested in lucid accounts of new conceptions in science and the evidence upon which they are based ; and we suggest that it is a duty of men of science to assist in making such information known. There is no hesitation in communicating new results to scientific and technical periodicals, and probably not one per cent. of these announcements or papers could be made intelligible to general readers. Even this small proportion is sufficient, however, to provide impressive scientific news if described in clear, understandable language ; and if it is not so presented, science as well as the world loses much of the value of the new knowledge.

Most admirable work for science publicity has been carried on in the United States since 1921 by a non-profit-making corporation called Science Service. The establishment of this institution for the purpose of disseminating scientific information to the public is due to a man of high ideals—the late Mr. E. W. Scripps—whose long and wide experience as newspaper editor and proprietor convinced him of the importance of scientific research as the foundation of national prosperity and the guide to sound thinking and living. Mr. Scripps himself drew up the scheme showing the general method of work of an association or organisation for the propagation of scientific knowledge and placed 30,000 dollars a year at its disposal at the beginning. He provided also that at his death the sum of 500,000 dollars was to be available for the promotion of the objects he had in mind. The following paragraphs from a memorandum prepared by Mr. Scripps in 1919 show clearly his purpose in founding a Press publicity service :

“The object of this institution, the American Society for the Dissemination of Science, should be to make the greatest use of the Press in the way of disseminating the knowledge which is the result of painstaking research carried on by a few hundred, or at least a few thousand, well-trained men equipped with great mental capacity.

“The first aim of this institution should be just the reverse of what is called propaganda. Its objects should never be to furnish argument or facts for the purpose of producing partisans for any particular cause. Its sole object should be to present facts in readable and interesting form—facts on which the reader could and probably would base his opinion on a subject of policies or sociology or concerning his duty with regard to himself and his fellows.”

Science Service is the concrete expression of Mr. Scripps' belief that the unity of the professions of science and journalism could be used effectively to educate the community in the factors which vitally influence human welfare and progressive development. It is under the control of a board of trustees composed of nine men of science and six journalists, the scientific members being nominated by the three leading national scientific bodies in the United States; and it occupies offices in the fine building of the National Academy of Sciences, in Washington. The director and managing editor of the organisation is Mr. Watson Davis, whose training as a physicist and engineer, combined with experience as a journalist, make him particularly well qualified to know what scientific news will interest editors and general readers, and also how to make new scientific knowledge intelligible to the laity.

The activities of this science news service are many and various, including a daily syndicated service to newspapers, special reports on current topics and events, interpretive articles suitable for editorial columns, special articles written by leading men of science and other authorities, science news talks for broadcasting stations, a weekly publication entitled *Science News Letter* in which the current progress of science is concisely summarised and illustrated, and as a central bureau for the distribution of seismological, magnetic, and solar observations of current interest. Science Service has in its offices at Washington

a staff of writers each of whom can deal with scientific matters in a particular field, such as medicine, biology, archaeology, psychology, chemistry, physics, astronomy, engineering, and so on. At a number of capitals in the world, and at centres of research in the United States, the organisation has competent correspondents who cable, telegraph, and post special news of scientific discoveries or developments to Washington, whence it is edited and distributed by telegraph and mail to newspapers throughout the country. About one-fourth of the newspaper readers of the United States have the opportunity of reading something by Science Service, daily or weekly.

It would be to the advantage of science and the newspaper Press if similar organisations for science publicity were established in other countries and co-operated with one another in an international science agency. Science Service already expends a considerable sum annually on scientific news from Great Britain, and it is hoped that a bureau will eventually be established in this country to supply newspapers with scientific matter in the same way as is done so successfully in the United States. Several attempts have been made to found such a science news service here, but little encouragement has been given to them by either men of science or newspaper editors. Ten years ago the British Science Guild arranged with Mr. G. D. Knox, a journalist who devoted particular attention to scientific subjects, for the preparation of suitable articles and notes on scientific topics and events, as well as special contributions by leading authorities, for distribution to the public Press on an agreed scale of payment. This service had, however, to be abandoned through lack of support. In the Report of the Council of the Guild for 1923-24 it was pointed out that there was little prospect of the service being self-supporting; and on this account it could not be continued. The position was expressed in the Report as follows: "It may be doubted whether the Guild can appropriately take up the functions of a Press Agency on a commercial footing, for that would mean the appointment at a suitable salary of a director familiar with agency work, and also an office adequately equipped to carry on work of this kind. If sufficient funds were available, such a Science News Agency could, of course, be established, and its activities would undoubtedly prove of decided advantage to both pure and applied science; but in the absence of such support, the Guild could not undertake the financial responsibility which such an agency would involve."

Since that time other efforts have been made to prepare and distribute scientific news through a central bureau, but with no better success. In recent years, however, Dr. Victor Cofman, a European correspondent of Science Service, and Mr. Donald Caley, a Fleet Street journalist who specialises in science and acts as a British correspondent of the Service, have devoted much time and attention to the subject, with the view of instituting a working centre of science publicity in London. It is to be hoped that their efforts will be encouraged, but an enterprise of this kind cannot be self-supporting from the beginning, and funds will have to be provided by private benefactors or societies interested in the promulgation of natural knowledge if it is to be placed on a permanent footing. The annual income of Science Service, Washington, is about 100,000 dollars, and it is made up of 70,000 dollars for services to newspapers, sales of books, etc., and

30,000 dollars from the Scripps's endowment. There is an operating deficit of about 30,000 dollars annually on the whole working of the service, but this is largely due to developments continually being undertaken in the spirit of the endowment.

Dr. Cofman estimates that the cost of maintaining a science news service in this country to supply about twenty news items a week, that is, about half the number issued by Science Service, Washington, would be of the order of £1,500—£2,000 annually, made up of salaries of director and clerical staff, office expenses, and payment for scientific information. An exchange arrangement with scientific news agencies abroad would considerably enlarge the service without adding greatly to the cost. The income derived from payments by newspapers for news or articles published is scarcely likely to amount to one half the expenditure involved in the service, so that unless a substantial subsidy is forthcoming, to cover a period of, say, five years, there seems to be no possibility of establishing in Great Britain a science news service like that in the United States, even on the most modest scale. As a business undertaking, such a service cannot be a profitable proposition for several years. In the absence, therefore, of a far-sighted public benefactor who will follow the example of the late Mr. E. W. Scripps, science must continue to suffer from inadequate and inaccurate representation in the public Press generally.

It cannot be said that scientific societies or scientific men themselves exhibit much interest, and certainly no enthusiasm, for the establishment in this country of a science publicity service worthy of their confidence. It is true that summaries of lectures and papers given before bodies like the Royal Institution and the British Association are prepared for distribution to the public Press, and that some scientific departments similarly issue descriptive digests of the main points in official reports. To make the best use of this material, however, it needs to be passed through the mind of a journalist familiar with science as well as with the interests and limited knowledge of newspaper readers in general. No single individual can be expected to deal in this way with every scientific subject, but it should be possible to bring together a group of scientific journalists, as is done in the offices of Science Service, capable of presenting the major scientific news to the Press in a form which would be acceptable to editors and the public. The time will come when agencies for the collection and communication of such news will be used just as extensively by newspapers as those which deal to-day with political affairs.

It must be apparent to anyone who devotes a little consideration to the methods by which the announcements of scientific advance reach the public through the Press, that present arrangements are far from satisfactory. The field is only partially covered. Only in any branches of inquiry which happen to be very much in the public eye at any given moment is any attempt made to keep the public adequately informed of what is being done. Still less is any attempt made to place before it regularly the relation of any advance to the general body of knowledge or the bearing of discovery on the interests of the individual and the community. As an example of what might be done on a larger scale, it is sufficient to point to the success of Sir James Jeans's books, in which new conceptions in astronomy and physics and the intellectual foundations of science are presented, or

to Professor Julian Huxley's broadcast talks, particularly those which dealt with the effects of discovery in pure science when applied to industrial processes and methods. It is surprising to what a large body of readers these books and a few others of like character have come as a revelation of what is being done in the realm of pure science and how it touches their lives at many points, without that fact having been appreciated by them.

These considerations and others of a like nature lead to the reflexion that while there is ample material available which would prove not only of the greatest interest but also of the greatest moment to the public to know, it does not reach that public through channels which are ready to receive it, if the demand were made plain, owing to a defect in organisation. The Press, which should act as an intelligence officer for the public, to keep it informed of matter of importance to its welfare, is itself imperfectly informed. This is not necessarily a fault to be imputed to the Press. Just as there is a body of experts—Reuters, Press Association, and other agencies—who handle foreign news, supplemented it is true in the case of the more important journals by experts of their own—their foreign correspondents—so in scientific matters the news could in the first instance be handled by a body of experts, a scientific news agency which could collect its material from scientific bodies and individuals, and then prepare it for circulation to the Press. This would ensure that the ground was systematically covered and that nothing that was of interest or moment to the public was overlooked.

In any such organisation of scientific news, it should be remembered that the function of science is twofold. In the first place as a body of knowledge, man's endeavour to satisfy his curiosity about the universe and all that therein is, the aim of science is to add to itself, to enlarge its circle in all its branches until it has become all-embracing—an ideal no doubt impossible of attainment, but nevertheless continually stimulating the research worker and spurring him to further endeavour. But secondly, as science—ordered knowledge of facts—first arose from man's endeavour to understand the material and the spiritual world for the promotion of his own ends—the stars in their courses for purposes of agriculture and navigation, the ways of animals and plants for his own food, simple principles of topography and hence to mapping and geography that he might find his way about his own world, the beginnings of metallurgy that he might mould better weapons of bronze against his enemies still using copper or stone, so modern science, however much it may be pursued for its own sake, has nevertheless a practical end in view, in some sciences more remote than others. When the Augustinian monk Mendel began to cultivate sweet peas, with the object of learning exactly how tall and short peas when crossed passed on their qualities to their offspring and subsequent generations, it is unlikely that it was in his mind that the principles he was then to formulate would attain an importance we are only now beginning to appreciate—principles which when more fully understood will not only affect great financial interests in all undertakings, such for example as the meat and milk industries, in which questions of breeding enter, but may also affect very seriously questions affecting social reform and the future of the human race.

It would be possible to multiply almost indefinitely the questions

of social and political well-being upon which the results of scientific research impinge no less directly than the theory of heredity. As these researches and many others affect the well-being of the citizen and the community directly, it is surely the duty of the Press as a service of public utility and the man of science as a citizen as well as a discoverer, to affect a *rapprochement* in order to create a public opinion which will ensure that no advantage may be lost which might accrue from the application of the results of scientific research to the needs and amenities of daily life. A more intelligent and more intelligible consideration of scientific work and thought is desirable in the public Press because of their close contacts with many national and international problems. Under the conditions of modern civilisation, the community in general is dependent upon science for its continued progress and prosperity. Under the influence of modern scientific discoveries and their applications, not only in industry, but also in many other directions, the whole basis of society is rapidly becoming scientific; and to an increasing extent, the problems which confront the national administration involve factors which will require scientific knowledge for their solution.

It is in these directions that the Press can render the greatest service to science and the public at the same time. Under the present social and educational system, it is not possible to hope that at any very early date our schools will turn out a population of scientifically-trained men and women. But it is becoming recognised, though slowly too, that what is needed is not so much detailed or expert knowledge of science, as the scientific outlook. The function of the Press, more readily to be appreciated perhaps when something of this scientific spirit has been inculcated in the schools, might very well be, by fostering this outlook, to ensure that the problems of government and administration, of society and of economics, are approached with scientific understanding. The problems of politics and society are not to be solved by the reiteration of party cries adopted by "little Liberals and little Conservatives," to use Gilbert's phrases of a bygone day, but by patient scientific consideration of the facts viewed in the full light of scientific knowledge and after a careful weighing of evidence. Here the Press, without departing from its tradition, and if it is prepared to trust the interest and intelligence of its public, might serve itself, Science, and the State.

The Selection of Literature, with Particular Reference to Special Libraries.

By ARTHUR F. RIDLEY, F.L.A.

The principles and procedure involved in the selection and acquisition of literature have long been established and successfully operated for most subjects in many general libraries, in contrast to the small minority which as a result of more haphazard accumulation of material have justly been described as "cemeteries for print." In the field of specialist literature, however, perhaps more particularly in that of science and technology, with its overwhelming expansion in recent times, many libraries of all sizes have been definitely handicapped in attempting to secure a suitable representation on their shelves of this type of literature, admittedly of outstanding importance in our present civilisation, whether regarded from the point of view of the specialist or the interested layman. The Council of ASLIB has included in the Conference programme a session on the selection of specialist books, because it is felt that the time may be ripe both for a thorough examination of the subject and also for some co-operative attempt at clarification of principles and guidance in methods.

The purpose of this introductory paper, therefore, has its importance rather as some attempt at a statement of the problem in general terms than a contribution to the establishment of a procedure for the selection of specialist books. It is hoped that a discussion of the subject by the many shades of interest which are represented in ASLIB's membership will produce practical results of value.

The problem itself is two-fold and is concerned firstly with the judicious selection of specialist literature for general and public libraries, which aspect is to be examined more fully in a subsequent paper. In this connection it is probably well for us, the majority of whom are occupied with specialist activities of great variety, to bear particularly in mind the fact that the views of the specialist are not necessarily attuned to the needs and aims of the general public.

The second part of the problem is the selection of books and other literature for special libraries of great diversity of type and purpose, ranging from the smallest office collection of a business or professional man to such large special libraries as, for example, those of the Royal Institute of British Architects and the Institution of Mechanical Engineers, and also the university libraries which in one sense may be regarded as assemblies of a series of special libraries.

It must be admitted at the outset in relation to this group that the attitude and methods of those responsible for the selection of literature will of necessity vary according to the purpose and use of the special library. Most organisations will operate within the range of the following categories :

- (1) The complete collection of all material, irrespective of merit, on the subjects dealt with.

- (2) Critical and evaluative examination of all material coming to view and an attempt at the formation of a partial but authoritative collection covering the special field. This, in still more intensive form, is also the problem of the public and general librarian.

It is fully recognised that in the competent selection of specialist literature the difficulties of the professional librarian become acute, not least in the general library, for, without specialist assistance, unless and until he acquires knowledge of the special subjects in addition to fulfilling the not unexact demands of his vocation of librarianship proper, he cannot claim to work alone in selecting even the essential literature on such subjects. In regard to general and public libraries, several abortive schemes have been framed or attempted with the object of securing regular competent help and advice from specialists, but the problem is formidable and so far not many more than a few fortunate libraries, by virtue of special local advantages, have solved it in any way satisfactorily.

The special librarian is frequently in a stronger position. For example, the libraries and information departments of some large manufacturing concerns select their literature partly by reference to the opinions of the technicians employed in the works, or by filing requests received from the same sources. To take another case of a centralised special library, that of a scientific Research Association serving a large number of manufacturers in a group of industries, and also the scientific staff engaged in research, the special librarian and information officers in addition to the resources in personnel of their own department are enabled to tap both their technical workers in industry and their own scientific colleagues for expert assistance on all phases of work carried out. By co-operative effort of this kind specialist collections of literature may be maintained at a relatively high value of practical efficiency.

Adequate weight having been given to the purposes of such a special library, there is little variation in principle either in building up an entirely new collection or in its effective maintenance from the current flow of incoming or available material. One of the main factors in both instances is the availability within the special library staff, or through other departments and links of the organisation, of competent technical advice and collaboration by specialists.

In the formation of a new special library, a general idea of what may be required can be obtained by visits to other libraries dealing with the same subject or having special sections devoted to it. An inspection should be made both of individual books bearing on the subject and of the special journals devoted to it (in each case both English and foreign), and before any literature is actually acquired the views of specialists thereon should be carefully considered. In this way the nucleus of a library may be established. Even this nucleus cannot be inaugurated with spectacular speed and certainty if correct balance and completeness are sought. In the course of years it is practically certain that old but important books, journals, and other publications will come to notice, having escaped attention at the first selection.

Having established a nucleus, the librarian's task is to keep his library fully abreast of the current work published. As far as books

are concerned, this object may be attained by a regular scrutiny of the published lists and of the special journals and periodicals devoted to the subject. The latter are by far the most important. It is difficult to keep in touch with every publisher on earth, and tedious and of doubtful profit to plough one's way through an enormous book list which at best will only reveal one or two items of importance. A regular survey of the journals is much more efficacious, and publishers make full use of this channel in announcing new works. By regular perusal of book reviews and announcements the librarian can readily keep abreast of the literature of the whole world.

In addition to books and journals, the question of the acquisition of reprints and preprints of papers to societies is also of importance in some instances. This also can be effected by a regular examination of the periodical literature.

Periodicals are therefore in every way the most fruitful source of information. But it is not every special librarian who has the time or opportunity to carry out this task. He may be too busily occupied with his ordinary routine tasks—accessioning, cataloguing, dispatch of loans, etc.—or in some instances it is entirely beyond the compass of one man to survey adequately the vast amount of periodical literature of his subject (e.g., chemistry).

If the library is attached to an institution which is actually devoted to work on the subject in question, such as a research association, the problem may be partly solved by arranging for readers of the various journals to advise the librarian of all matters which deserve his attention. Even where the library is a separate organisation, the librarian can probably arrange in some way to obtain at least some such service from his readers.

It is advisable to establish contact with all societies throughout the world which deal in any way with the subject to which the library is devoted. The best way, if it be possible, is to be put on the regular mailing list of such societies for notices of all papers which are to be read at forthcoming meetings. In this way the librarian, by examination of such lists, can ascertain his needs in advance, and obtain preprints or reprints, as the case may be, as well as monographs, etc., which may be issued (the latter is a growing tendency with many societies).

Apart from the sources and types of literature dealt with above, there is the question of trade publications. These also can only be kept up to date by a regular survey of the journals, and by establishing timely contacts and relations with the publicity departments of manufacturers.

Wherever possible, in communicating with societies, authors, industrial organisations, or publishers, the librarian should endeavour to have the name of his organisation put on the regular mailing list. Unfortunately it is not yet a simple tradition to establish, and always requires watching. Moreover, the question of a *quid pro quo* arises, as some individuals and groups will not agree to keeping the librarian posted regularly unless they receive some service in return. This is, of course, possible in some instances, and the actual routine of acquisition of desirable material, whether by gift, exchange, or purchase must necessarily vary with the nature of the organisations concerned. The location and circumstances of any particular special

library will govern to some extent the question of whether free access to other reference or loan collections shall influence the processes of literature selection.

In the preparation of the foregoing notes, I have had the advantage of assistance from Mr. B. Fullman, B.Sc., A.I.C., Information Officer, British Non-Ferrous Metals Research Association.

The attached list of references does not claim to be exhaustive, nor has any attempt been made to evaluate the items, which are markedly unequal in their treatment of the particular questions now under review, but are listed as having been traced and examined, and as appertaining to the subject.

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DISCUSSION.

Mr. Ridley's paper and the following paper by Miss Morley were discussed together, the chair being taken by SIR RICHARD GREGORY.

DR. A. BATLEY referred to the simplification of the book selection problem in his own organisation (Kodak, Ltd.) due to the severely specialised range of interest, the centralisation of scientific and technical staff capable of advising on library purchase, and to their good financial resources. The H. K. Lewis library was found to be of very considerable use as a means of inspection of books before purchase.

MISS A. K. OSBORNE reported that in her organisation (Brown-Firth Research Laboratories) the responsibility for the introduction of new books rested primarily with the librarian, but in close co-operation with the technical and research staff. Owing to the multiplicity of really sound treatises on some subjects and the dearth of information on others, there appeared to be a certain danger of a lack of balance in some libraries. She suggested that this point should receive special attention and that where published information appeared to be non-existent much might be done to eliminate these gaps by collating the data which undoubtedly exist among the research and technical staff of any large organisation. She expressed her appreciation of a scheme now working in Sheffield for the co-ordination of

(Continued on page 39)

Discovery of Business Informational Material.

By LINDA H. MORLEY.

[Paper read on behalf of the Special Libraries Association of New York by Mr. William C. Dalgoutte (British Library of Information, New York).]

In the business library, as in all other types of special libraries, the problem of selection as understood and practised by the general library seldom arises except in a few libraries which deal with broad subjects or subjects on which there is an extensive literature, as, for instance, in the general business library or one concerned with such subjects as finance, accounting, or railroads. The problem of discovery, however, is an active one.

Before undertaking to discover what information exists in written form that would be valuable to a particular organisation it is necessary to make certain investigations or surveys. There will be first the survey of the organisation and its activities. This is similar to the survey made by an accountant who is retained to plan and install an adequate system of accounting for a corporation, or the survey made by the company statistician preliminary to planning a statistical or research programme that will be a guide for the corporation's executives. The information needs of the library's clientele are thus discovered. The next step is to acquire a working knowledge of the subjects by careful reading of a few authoritative publications and a rapid survey of the literature of the subject as a whole.

The goal of such a survey is to obtain a broad skeletal knowledge of the subject, its parts and phases; to discover the relationships of these parts among themselves and to other fields of knowledge; and to acquire a wide vocabulary of the subject of primary interest.

It will be realised that in the literature of any subject there are differing view-points and methods of presentation, some of which will be valuable to business men and others that will not. Probably business librarians everywhere will agree that the clientele of a business library more often need current information than historical information; that detailed description of practices and methods are more often wanted than expositions of theory and opinion; that reference books—i.e., handbooks, annuals, directories, services, transactions and proceedings of associations, documents, surveys, etc.—are more often needed than the readable type of book; and that detailed and technical treatments are necessary while the elementary and general or popular book and article is seldom valuable.

The search for specialised material requires the use of three different types of bibliographical sources. First and most important are the publications in the particular field, especially the journals which contain book reviews, book notes, and trade literature departments; and, when they exist, abstracting and listing publications. The second group of publications includes similar journals and especially bibliographical publications, abstracts, etc., not limited to the particular subject, but including it with others in a somewhat broader subject field; and the third group, which must be checked almost as closely,

includes the comprehensive lists covering all subjects, but limited to one class of publication, such as periodicals, documents, theses, etc., and limited chronologically or geographically, but approximately complete within their defined limitations. Examination of this third group of bibliographical material often yields a rich harvest of publications which are valuable in a particular field, although they have originated outside that field and therefore are often not discovered through the journals and lists prepared especially for the particular subject. Discovery and recognition of the value of the occasional publication prepared for one use, but valuable in an entirely different field of activity, is a service which the librarian who knows his special subject, but also knows all important bibliographical sources and how to use them, brings to his clientele. Many of these general lists are not arranged by subject, or if they are classified by subject the classification does not correspond with, or represents a cross section of, the subjects of interest to the individual special library. It is therefore necessary in many cases to check through the entire list or each current issue as received.

CURRENT GENERAL SOURCES.

In order to obtain the factual information needed in the preparation of a text-book on business library administration a survey of twenty business libraries, diversified as to size, subject interest, and type of organisation and clientele served, was recently conducted through group interviews and questionnaires with the co-operation of the New York Special Libraries Association. The results of this survey, in so far as they concern our subject, may be of interest here. These librarians were asked to rank fifteen current general bibliographic publications and check lists in the order of value to their particular library. The following tables show the results. Because the publications that are used by the largest proportion of these libraries are in many cases not those which are ranked as most important, the ratings are given in two ways. The first table shows these publications in order according to the number of libraries using them, and succeeding tables show the publications ranked first, second, and third in importance.

PERIODICALS AND NEWSPAPERS.

Some individual comments are worth noting. One librarian reports as most important to her library—trade papers, Wilson indexes, United States government published lists, and scientific journals. Another librarian says: "No publication attempts to review or even mention all books published on our subject. We rely primarily on the current magazines in our field to supplement each other." Three other librarians stress the fact that there is no single current publication, or even two or three publications, which cover their field adequately. This necessity for using many sources in each library is also demonstrated by the answers to the request for titles of the three or four other sources found most valuable to each library in which seventy-five titles are mentioned. No title is mentioned by more than three libraries and most titles are mentioned by one library only. It should perhaps be emphasised that it is not sufficient to check over merely the lists of new publications that appear in periodicals, but in scanning

TABLE I.

GENERAL BIBLIOGRAPHICAL PUBLICATIONS IN ORDER OF VOTES
RECEIVED AND NUMBER OF LIBRARIES RANKING EACH IN FIRST,
SECOND, THIRD PLACE.

Title of Publication.	No. of Libraries Using each Publication	No. of Libraries Ranking each :		
		1st	2nd	3rd
Special Libraries (Department: "Digest of Business Book Reviews")	15	0	1	1
United States Daily*	14	2	2	0
Monthly Catalogue United States Public Documents	13	1	2	1
Publishers' Weekly	12	2	2	3
Industrial Arts Index (Department: "Book Notes")	12	2	2	2
Monthly Check List of State Publications .	12	2	0	2
American Economic Review	10	1	1	2
Management Review	10	0	0	2
Public Affairs Information Service . . .	10	3	2	0
Cumulative Book Index	7	1	2	0
Special Libraries (Department: "Events and Publications")	6	0	1	0
Engineering Index (card service)	4	1	0	1
Catalogue of Copyright Entries	3	0	0	0
Book Review Digest	1	1	0	0
Dartnell Corporation (lists and cards) .	1	0	0	0

* These library reports were made before change to weekly publication as
United States News and when many more documents and reports were mentioned.

TABLE II
GENERAL BIBLIOGRAPHICAL PUBLICATIONS WHICH WERE RANKED
FIRST, SECOND, OR THIRD IN IMPORTANCE AND NUMBER OF
LIBRARIES SO VOTING.

<i>Publications given First Place</i>	<i>No. of Votes</i>
Public Affairs Information Service	3
Industrial Arts Index (Department : " Book Notes ")	2
Monthly Check List of State Publications	2
Publishers' Weekly	2
United States Daily	2
American Economic Review	1
Book Review Digest	1
Cumulative Book Index	1
Engineering Index (card service)	1
Monthly Catalogue, United States Public Documents	1

<i>Publications given Second Place</i>	<i>No. of Votes</i>
Industrial Art Index (Department : " Book Notes ")	2
Cumulative Book Index	2
Monthly Catalogue, United States Public Documents	2
Public Affairs Information Service	2
Publishers' Weekly	2
United States Daily	2
American Economic Review	1
Special Libraries (Department : " Digest of Business Book Reviews ")	1
Special Libraries (Department : " Events and Publications ")	1

<i>Publications given Third Place</i>	<i>No. of Votes</i>
Publishers' Weekly	3
American Economic Review	2
Industrial Art Index (Department : " Book Notes ")	2
Management Review	2
Monthly Check List of State Publications	2
Special Libraries (Department : " Digest of Business Book Reviews ")	1
Engineering Index (card service)	1
Monthly Catalogue, United States Public Documents	1

OTHER GENERAL SOURCES LISTED TWO OR MORE TIMES

<i>Title of Publication</i>	<i>No. of Votes</i>
Domestic Commerce	4
Monthly Labour Review	3
International Labour Review	3
New York Times Book Review	2
New York Herald Tribune Books	2
Bankers' Magazine	2
Economist (London)	2

the articles also to note references to investigations, reports, etc., in articles and news items. The daily papers also should be watched for suggestions or reports issued or to be issued as mentioned in articles.

It may be of interest to compare the place given to trade, technical, and business journals as a source for the discovery of new publications in special fields given by this group of business libraries with similar information gathered by the Special Libraries Association Committee on Methods in 1923. Out of 163 libraries then reporting, 130 used magazine reviews, 27 used newspaper reviews, and 57 rated magazine reviews, trade, technical, and professional journals the most helpful sources. The type of publication receiving the next largest number of votes was document check lists, which were used by 123 libraries. These returns parallel pretty closely the present returns on the smaller number of business libraries reported above. A number of librarians speak particularly of the value of the bulletins of other business libraries.

No attempt was made to find out from these business libraries how they had originally discovered the journals in their field that currently review or list new publications. Probably a knowledge of these sources was built up gradually in each library. Some publications do exist, however, which help in discovering such journals. Miss Ulrich, in her *Periodicals Directory** indicates under each entry those which give book reviews. The list of magazines† compiled and published by the Newark Business Branch has a classification under which journals which contain book reviews are listed. The *Index Bibliographicus*‡ published by the League of Nations Committee on Intellectual Co-operation, lists many abstract and review journals in special subject fields. The list§ prepared by Mr. Mose, of the John Crerar Library, includes many informal and less known publications not included in the other lists.

OTHER SOURCES.

An interesting fact that throws light on an important source of much material coming into these business libraries is brought out by a question which sought to determine the acquisition methods found most effective. The librarians were asked to state what proportion of the material obtained without cost is received without any request as well as the proportion received from individual members of their clientele. Replies show that 18.74 per cent. is received without request, and that 7.11 per cent. is received from individual members of their clientele. This latter material is obtained because of individual contacts, membership, attendance at meetings, exhibitions, etc., by individual members of the organisation. In most business organisations also all second-class mail received, especially if not addressed to any individual, is sent to the library. Neither of these channels of supply is open to the general library and probably some of the most valuable material, especially informal mimeographed and typewritten material not meant for general distribution, is received

* *Periodicals Directory* (N.Y. Bewker, 1932).

† Newark, Free Public Library, Business Branch, *Business Magazines Classified by Subject* (1933).

‡ *Index Bibliographicus* (Berlin: de Gruyter, 1931).

§ John Crerar Library, Chicago, *List of Reference Indexes, Special Bibliographies, and Abstract Serials in . . .* (Chicago, 1930).

by the special library in this way because of the close contacts maintained by specialists in an individual organisation with other organisations active in their particular field.

These business libraries report that almost twenty per cent. of the material received without cost comes as a result of requests to be placed on permanent mailing lists of organisations. This result presupposes a rather wide knowledge of the publishing organisations in the library's field.

INVESTIGATIONS AND RESEARCH PROJECTS.

Libraries interested in special fields frequently need information that does not exist in print. It is necessary that they keep informed on the research in progress on the frontiers of their subjects, whether conducted under academic auspices, or co-operatively in associations, or in individual business corporations, or by research foundations and service organisations. One of the important means employed to discover such activities is membership in associations and other organisations carrying on research. Incidentally, the library should always secure periodicals issued by non-commercial publishers through membership in the associations or other organisations wherever this is possible, in order to obtain announcements and other service which ordinarily goes only to members. The announcements, membership bulletins, and annual reports often give information on investigations of a research character. The research activities of government bureaux are generally reported in their annual reports. The business librarian thereby discovers research projects in advance of their publication by careful examination of the annual reports of all federal, state, and local government departments and bureaux, whose activities have any bearing on the work of the particular clientele. A number of universities issue lists of theses in preparation, and those universities which have bureaux of business research usually report their activities in the bulletin of the bureau, or in a bulletin of the university. A few compilations of doctoral dissertations appear annually in regular journals. The best known are the lists which have appeared for a number of years in the *American Economic Review** and the *Political Science Quarterly*.† Some other journals often mention investigations under way informally or as news notes. Examples of this are: *Domestic Commerce*,‡ issued by the United States Bureau of Foreign and Domestic Commerce; *Personnel Journal*,§ issued by the Personnel Research Foundation; and many others.

Many research studies and investigations are reported in the newspapers, sometimes at their inception, sometimes as important information or conclusions are brought to light, and usually on completion if the subject-matter is of importance and general interest.

It is extremely worth while to record these investigations by subject either in the catalogue or in memorandum form to file with material on the same subject. If this is done on the first announcement of the project it is often possible to obtain some desired informa-

* *American Economic Review* (Evanston, Ill., Monthly).

† *Political Science Quarterly* (N.Y., Quarterly).

‡ *Domestic Commerce* (Washington, D.C., Bureau of Foreign and Domestic Commerce, Weekly).

§ *Personnel Journal* (N.Y., Monthly).

tion while the investigations are in progress. When the reports are published they frequently get advance mention in the daily press and this makes it possible to secure them sooner than if lists of publications are the only sources checked. To do all this requires rather close scanning of both newspapers and periodicals, but such scanning is really a necessity if intelligent reference and information service is to be given in a special library.

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technical information which had originated as a direct result of the discussion following Mr. J. P. Lamb's paper at the 1932 ASLIB Conference.

MISS EVELYN ATKINSON (Messrs. J. Walter Thompson, Ltd.) spoke from the point of view of the technical information service of a large advertising firm embracing a wide range of subjects. The primary requirement of such a bureau was for immediate access to reliable information on all types of specialised subjects. This type of service had been found to be most satisfactorily supplied by ASLIB. The speaker strongly supported the appeal for authoritative lists of books dealing with scientific and technical subjects.

DR. G. F. HERBERT SMITH drew attention to the existence, at the Natural History Museum, of the largest collection of literature in the world dealing with these specialist subjects, and offered co-operation in the preparation of lists of recommended books.

DR. S. C. BRADFORD referred to the varying problems confronting general and special librarians. He considered that the systems at present in use were somewhat cumbersome and urged the creation of mechanism for the pooling of effort.

PROFESSOR R. S. HUTTON, referring to the difficulty of tracing material in journals of "border-line" interest, directed attention to statistics and an analytical survey of this aspect of the subject presented by Dr. Bradford in a recent paper entitled "The International Indexing of Scientific and Technical Papers" (*Engineering*, February 3rd, 1933, pp. 119-122).

A fuller account of the above discussion can be seen on application to the ASLIB office.

Methods of Selecting Scientific and Technical Books for General Libraries.

By JAMES E. WALKER, F.L.A.

Although I am to describe methods of selecting scientific and technical books for general libraries, I do not intend to roam over a wide field, but will content myself with a few general observations on the methods employed in my own library. I do so because it seems to me that a description of a working scheme, and one, moreover, which is probably in use in many other libraries similar in size and type, will best serve the purpose for which it is written.

Hendon residents have what I suppose is the principal characteristic of people living in other London suburbs, namely, that when they are "gainfully occupied" it is in places other than the one in which they live; so that in these suburbs a list of local trades and industries will give no indication of the occupations of most of their inhabitants. In this respect they are unlike a provincial town, where persons interested in local trades are also local residents, and the book selector is safe in providing books bearing on the staple industries of the place. In our case, of the comparatively small number of people employed in local factories only a fraction actually live within the borough.

I mention these points because they have some bearing on the policy of selecting books dealing with local trades and industries, so far as it is practised in suburban libraries, always assuming, of course, that persons engaged in a particular industry are interested in its literature, perhaps a rather large assumption. It is at any rate sufficient for me to say that in Hendon we have no staple industry employing a large body of people, such as are in say Coventry or Sheffield. There is a small number of the inhabitants employed locally, but there is a much greater number interested or engaged in various trades and industries in other parts of London.

It is necessary to remind you that the Hendon library service was established only four and a half years ago. When the initial or nucleus stock was being assembled we had at first to confine our selection to standard and current books for which it was certain there would be a demand. It was fairly easy to assess in advance the probable demand for pure literature, history, geography, economics, and kindred subjects, but in such an almost wholly residential suburb it was hard to know just how far the provision of scientific and technical books would be justified by use, nor, until the library was operating as a going concern, was there any means of getting the information. As soon as the doors were flung open, however, we were able day by day to gain the experience to enable us to make adequate provision for the quite substantial demand that was found to exist for books on certain branches of science, engineering, building construction, and other vocational subjects.

In a new town the call for books on the art of building was under-

standable, but I confess to having been surprised at the volume of demand for the literature of engineering. It is now far and away the most popular of the subjects in the Dewey classes 500 and 600. I have extracted a few figures from our records, and I find that last year we had about 650 books on various branches of engineering in our adult lending department, and that they were issued 5,836 times for home reading, an average of nine per volume. Surely, for a residential suburb, a surprising and gratifying achievement.

This brings me to the first and indeed the only important point I have to submit to you, namely, that the general library can only provide scientific and technical books, whether for lending or for reference, in response to expressed demand. In most other subjects it is its duty to anticipate demand, and having bought the books, to bring them into contact with readers. That cannot be done in the case of science and technology. The books as a rule are too costly, and so soon get out of date, that to buy them merely on the chance that one day someone may want to read them is in my judgment the wrong policy. It would be a waste of public money to have them lie idle and unused on the shelves.

The result is that books on subjects which experience has shown to be in little demand, such as, for example, geology, palaeontology, and advanced text-books on botany and its various sub-divisions, are in our case added only sparingly, if at all. Even popular works on geological subjects have proved to be of no more than limited appeal, while the few standard text-books which have been provided have barely earned their keep by use. Volume 1 of Geikie's *Text-book of Geology*, for instance, was issued three times in the two years 1930-1931, six times between 1932 and 1933, and so far this year not once, while volume 2 has been issued twice only in four years. If and when a new and revised edition appears we shall have to consider very carefully whether or not to buy it. Another case I have noted is Seward's *Plant Life through the Ages*, bought when it was first published in 1931, and put into circulation in the November, since when it has been out seven times. A second edition at 30s. has only recently been published, but, for the time being at least, we have decided that local demand does not justify its purchase.

So far as my own experience is concerned, I have found that readers who use the general library for the subjects under discussion are drawn mainly from secondary schools, polytechnics, and similar institutions, together with university students, professional men, and others engaged in technical work. Our circulation is therefore mainly a text-book circulation. The books we provide may be conveniently divided into three groups, namely, popular introductions suitable for the general reader and beginner; text-books of varying degrees of difficulty, but usually excluding the very advanced; and purely reference books. In a few subjects, wireless theory among them, there is a limited demand for advanced works, but generally speaking neither in the lending nor the reference department do we cater for the advanced student or research worker. The nearness of London, with its many fine specialist libraries, and the existence of the National Central Library, of whose excellent service we make full use, make it unnecessary for us to do so.

The principles of selection I have outlined are made to apply equally

to the reference as to the lending library, that is to say, expressed demand is made the occasion for adding books to particular sections. The latest editions of standard scientific and technical dictionaries are there, such as Allen's *Commercial Organic Analysis*, Glazebrook's *Dictionary of Applied Physics*, Mellor's *Inorganic and Theoretical Chemistry*, Thorpe's *Dictionary of Applied Chemistry*, Scholmann-Oldenbourg's *Illustrated Technical Dictionaries in Six Languages*, and other similar technical dictionaries in English and foreign languages. These are in constant use, but we have also provided duplicates of text-books on mathematics, physics, chemistry, physiography, fuel, refrigeration, and heating and ventilation which have proved to be in demand for reference as well as for lending. The great bulk of our text-books are placed in the lending department, where they are available for use in the reference room should they not be out on loan at the time.

In stating that we buy only in response to demand I do not mean to infer that we provided empty shelves and then sat back to await readers and their requests. As a matter of fact we have also tried to create demand. Shortly after the library was opened a letter was sent to each of the large manufacturers in the district drawing attention to the definite use that the library could be to local trade and industry, either by means of its own resources or through the service offered by the National Central Library and its outliers, and a number of local firms do in fact frequently make use of our library.

I may add that this service has been reciprocal, some of the firms having been of material assistance to the library on more than one occasion. We have also benefited from the co-operation of other organisations. Among those that have helped are the Department of Scientific and Industrial Research, the Diesel Engine Users' Association, the Institution of Gas Engineers, the Institution of Locomotive Engineers, Kodak Ltd., the Patent Office Library and Standard Telephones and Cables, Ltd., to which we have applied for information on books or subjects which would help to satisfy our readers. There are times when we find it better to refer enquirers to the specialist libraries themselves, a further illustration of the advantages of being within easy reach of them.

In thus meeting current needs the general library, by developing its sections according to use, is building up a stock that to the tidy mind may appear unevenly balanced. Popular sections grow rapidly, while less popular ones grow slowly, but I do not believe that any loss of efficiency results from this. Once it becomes widely known that the student of physics, chemistry, or engineering is getting good service at his library, then students of other subjects, if they exist locally and in sufficient number, will come along and expect, with reason, to have their wants equally well supplied. It would seem logical, then, to suppose that the more the several sections of science and technology are used, the better the service the general library will be able to provide; and, conversely, as soon as it is known that the library is able and willing to supply the books, students in ever greater numbers will use it.

The policy of the general library in selecting scientific and technical books may therefore be summed up in very few words. It cannot afford to have every subject represented regardless of possible use, nor can it afford to have a complete collection of books on any one

subject. There comes a time in its history when it is necessary to refuse the purchase of particular books. We in Hendon, for example, do not buy scientific and technical works written in foreign languages. In such cases the machinery of the National Central Library is set in motion. During last year about one-third of the books we borrowed rather than bought were scientific and technical. Among them were works on biology, anthropology, optics, zoology, plant biology, human physiology, applied chemistry, industrial electro-chemistry, and scientific periodicals in German and English.

I now turn for a few minutes to a consideration of the sources upon which we rely for our selection of these books. For older works there are the usual general and special bibliographies in book form. The general ones I need not name; the special include the well-known British Science Guild's *Catalogue of British Scientific and Technical Books*, and the sessional *Programme* of the Department of Technology of the City and Guilds of London Institute. For current books we use publishers' announcements, and reviews in *Science Progress*, *Nature*, *Engineering*, the *Electrical Review*, the *School Science Review*, and others, together with, for popular works, the general literary periodicals.

The British Science Guild's *Catalogue* is so well known to members of ASLIB that I need not enlarge upon it, and I will only testify to the great use it has been to me personally. If I might venture upon one word of criticism it is that for the general library it is on the whole too inclusive, and is probably of most use to the expert who is already familiar with the literature of his own subject. On the other hand, the lists of books in the City and Guilds *Programme* are more selective. They are prepared and published for the information of those interested in the subjects in the syllabus, i.e., the kind of student using the general library. The lists are revised annually, and the items are classified as text-books and reference books. Moreover, dates of publication are given, and new editions are distinguished from mere reprints, information which is of the utmost importance to the librarian. The subjects of the bibliographies cover a wide field, ranging from alkali manufacture to cookery, needlework, and other domestic topics.

The technical periodicals I have named are all good in their particular way. *Science Progress*, *Nature*, and the *School Science Review* review books suitable for science libraries. Those in the *Electrical Review*, as one would expect, are devoted almost exclusively to electrical engineering; while all branches of engineering are covered by *Engineering*. The reviews in the last named are models of their kind, dealing with all the points upon which the non-specialist librarian needs guidance. They explain the purpose of the book, awarding praise or blame impartially, exposing the author if his claims are exaggerated, and mentioning the kind of student to whom the book will appeal. Furthermore, information is given on so-called new editions, whether they are in fact new or just reprints. In short, the review shows what manner of book it is.

It is, however, obvious that in order to use these aids so as to get the best advantage from them, a knowledge of readers' requirements is essential. There are various ways of acquiring this. One is by a careful study of the use made of various sections of the stock, as provided by the library records; another is by means of formal

suggestions for additions made by readers ; and a third is the reports from the staff at the service point. In the last case a book, kept at the counter, in which are entered all casual enquiries for books or subjects which normally would be lost sight of, has proved useful. A quite large amount of information can in this way be assembled, many readers being too diffident to make suggestions in a more formal way.

In conclusion, I should like to mention a matter which I know has been discussed at a previous ASLIB conference*—the great need that exists for some regularly published guide to the literature of science and technology, with extracts from reliable reviews. The *Technical Book Review Index* formerly issued by the Carnegie Library of Pittsburgh has been cited† as the sort of thing we need in England. Unfortunately this Index has been discontinued since the end of 1928, and its disappearance has left a lamentable gap in technical bibliography. An annual graded list of technical books of the year is published by the Pratt Institute Free Library, Brooklyn, but no librarian can wait until the end of the year before making his selection. Most of the books are already bought by then. No doubt, however, it admirably serves the purpose for which it is published, and English librarians cannot therefore justly complain if it is a little late in the day for their needs.

DISCUSSION.

The chair was taken by SIR RICHARD GREGORY, who mentioned the work done by the British Science Guild in the publication of the *Catalogue of British Scientific and Technical Books* in 1925 and 1930. Since the publishers had paid for the insertions, it could not be a specially selective list, although efforts had been made in that direction.

In the discussion that followed, MR. W. C. BERWICK SAYERS stated that so-called experts had an extraordinary lack of knowledge of the best literature on their subjects. There was a great need for a list which would indicate the degree of difficulty of scientific and technical books and, if ASLIB would consider the possibility of issuing such a list, most public libraries would find it worth while to join the Association. DR. E. E. LOWE agreed that experts frequently do not know the literature on their own subjects. He then outlined the principles which had governed the selection of books for the scientific and technical list recently issued by the Leicester Public Libraries. It should not be impossible for ASLIB, preferably in co-operation with the Library Association, to issue an annotated list of recent technical and scientific books. PROFESSOR R. S. HUTTON was surprised to hear that experts did not know the literature of their own subjects, but agreed that ASLIB ought to be able to form a panel of experts who would assist in the compilation of the required list. MR. E. N. SIMONS said that he thought that the quality, rather than the number, of the readers should govern the evaluation of a book. The importance of a book often depended upon its immediate accessibility, and he advocated an extensive weeding out of obsolete books in public libraries. DR. S. C. BRADFORD pointed out that it was unreasonable and impracticable for public libraries to supply all the latest information. The Science Library at South Kensington would be pleased to help when the latest information was required.

* *Report of Proceedings of the Fifth Conference*, p. 116.

† *Report of Proceedings of the Fourth Conference*, p. 160.

Book Recommendation Methods at the Bodleian Library.

By STEPHEN G. WRIGHT, M.A.

A Library which, like the Bodleian, enjoys Copyright privilege, is relieved of a great part of the burden of selecting what books to acquire; indeed the reverse problem of what to segregate is likely to prove more pressing where English books are concerned. With regard to new foreign books, however, there must be machinery whereby a judicious selection of purchases may be made, which will meet all the reasonable needs of readers while keeping within the limits of available funds. It is true that a certain number of foreign books reaches the Bodleian by donation, and by the system of academic exchange; the latter provides a large quantity of dissertations, a proportion, albeit a small proportion, of which are extensive and valuable works which are later republished for sale, verbatim or slightly expanded. And apart from these sources, there is sometimes a reasonable probability that a book will be translated, and reach the Library in that form by copyright; and unless there is any special reason for having the book in its original language, it is pointless to go to the expense of acquiring it. Moreover, as regards American books there is the possibility of their being simultaneously published in this country, in which case they will be received under the Copyright Act.

After discounting all these possibilities, however, there remains the bulk of the publications of the Continent and America to sift and assess. First, as to sifting: the principle which the Bodleian accepts as a starting point is that every important book is fairly certain to be reviewed in one or other of a comparatively small number of learned journals, most of which, whether English or foreign, are taken by any large library for their importance on general grounds. It is a simple matter for a clerk to write a card for all foreign books reviewed in each number, as it appears, of a hundred or two periodicals. These cards are then looked over by a Senior Assistant, who can reject at once a proportion of the books which are

- (i) already in the library;
- (ii) obviously unimportant;
- or (iii) dissertations, almost certain to be received by academic exchange.

The remainder are then classified by subjects, grouped under the different faculties of the University. Now comes the question of assessing the value of this residue, and here obviously expert knowledge is necessary. It is not to be expected that the Library Staff will contain members who have, between them, a specialized knowledge of Theology, Law, Ancient and Modern History, Languages and Literature—English, Classical, European, and Oriental—Science in all its branches, Philosophy, Economics, Music, Art and Archaeology, to summarize the classification. And in any case the

time necessary to read, at length, reviews often in foreign languages, could not be spared by administrative officials of the Library. The co-operation of the teaching staff of the University was therefore obtained. Each faculty was invited to appoint a small committee which would meet on a fixed day once a term in order to discuss a list of books dealing with its subject, and to advise the Library which to purchase and which to reject. By this means the Library can feel confident that all important books reach its shelves, while the teaching staff of the University has the opportunity to ensure that a copy is available in Oxford of all books which are of real value to its students, both undergraduate and advanced.

The detailed practice is as follows : once a year each Committee revises the list of periodicals from which reviews are listed, thus ensuring that all the ground is covered. Before each meeting a typed list mainly compiled from the cards mentioned above, is sent to each member, giving author, title, date, some indication of size (number of pages or price), and a reference to the review or reviews ; the periodicals are on the table at the meeting. The list also includes (i) any relevant suggestions from the Suggestion Book, in which readers may draw attention to particular books not in the Library ; and (ii) forthcoming books of which prospectuses have been received. Moreover (iii) members of the Committee are invited to send supplementary lists of books of which they have learned from other sources, and which they wish to be considered. At the meeting the list is taken in detail ; a member of the Library Staff is present, who records the opinions expressed, and reports to the Librarian which books are recommended for purchase. Since the members of the Committee are normally aware of the contents of any special departmental libraries in Oxford not under Bodleian control, unnecessary duplication is avoided. In one case, indeed, that of Modern Languages and Literature, it is the departmental library, the Taylorian, which selects purchases for itself ; a Bodleian representative attends the meetings of its selection committee as an "observer," and takes notes of any books which are recommended as being more suitable for the general library than for the highly specialised Taylorian.

Such, in outline, is the machinery which has recently been brought into regular operation, and which promises to work smoothly and satisfactorily. Previous attempts at organizing expert advice had proved abortive or were too limited in scope, and for this reason the Library had many sad lacunae in its stock of foreign books, until a recent campaign, for which special funds were available, reduced the deficiencies to trifling proportions. In this task also the Selection Committees proved invaluable.

It should perhaps be pointed out that the final decision as to purchase remains, of course, with the Librarian. The function of the Committees is purely advisory, and although their value depends upon their advice being accepted, exceptionally expensive recommendations have to be reconsidered and, if necessary, vetoed. And, finally, it should be remarked that there is always a residue of books not classifiable, upon which no committee is specially qualified to give advice. For example, books of purely bibliographical interest, whether technical treatises or specimens of fine printing, will always be best assessed by members of the staff ; and new books relating to very special

subjects in which the Library is unusually rich are often purchased as a matter of course without reference to the Committees.

Some of what has been said must relate only to the peculiar case of a Library which is at once a Library of deposit catering for the needs of a distant posterity, and a University Library demanding to be supplied with all the equipment necessary for current studies. But Bodleian procedure may be suggestive for other cases: and it is gratifying that another great Library has asked for marked copies of certain of our lists to assist in making its own foreign purchases.

NOTE.

The Chair for the papers on Book Selection was taken by SIR RICHARD GREGORY. A discussion followed Mr. Wright's paper during which methods of book selection as practised by various University Library Committees were outlined by the following speakers: DR. W. BONSER (University of Birmingham), MR. G. ELLIS FLACK (University College, Nottingham), PROFESSOR R. S. HUTTON (University of Cambridge), and MR. B. M. HEADICAR (London School of Economics, University of London). The latter pointed out that the chief difficulty lay in the choice of those books which have both a technical and an economic appeal and which often do not appear in the usual lists of new publications. He asked whether it would not be possible, from amongst the many members of ASLIB, to find some who would be prepared to furnish, for the benefit of others, a list of books which they considered outstanding in their particular field. He also regretted the dearth of comprehensive and authoritative works on the resources and economic conditions of the various overseas Dominions.

A fuller account of this discussion can be seen by members on application to the office of the Association.

The Use of the Universal Decimal Classification in Photographic Abstracts.

By H. V. HORTON, B.Sc., A.I.C.

Photographic Abstracts is a quarterly journal which contains abstracts of papers of original research in photographic and allied sciences and of patent specifications. Photography is a very large subject and calls to its aid most of the sciences and many of the arts. The bio-chemistry of gelatin, the organic chemistry of dyestuff sensitizers, the inorganic chemistry of the noble metals, the physical chemistry of the complex colloidal mixture known as the sensitive emulsion, optical questions relating to lenses, physiological questions relating to such matters as the persistence of vision affecting ordinary and colour cinematography, and the enormous field of process work and printing, are only a few of the aspects of the subject which have to be considered. In addition we have all the applications of photography amongst which may be mentioned: aerial survey, astronomy, ballistics, crime detection, the examination of paintings and documents, photometry, radiography, spectroscopy, and photo-sculpture. The whole subject is, in fact, one which not only lends itself to the decimal classification, but really needs it: it is indeed fortunate that Dr. W. Clark, some years ago, expanded the photographic section of the classification, thus making this system of very great value to all who have to classify photographic material.

In dealing with original research papers considerations of cost have made it impossible to adopt the ideal method of appointing abstractors to prepare abstracts of all papers published. Certain papers are abstracted by expert abstractors, but many abstracts are copied from other abstract journals. It is in making the selection of these abstracts that the decimal system has been of great value. Authors, unfortunately, sometimes publish the same paper in two different journals, frequently in two different languages, and it often happens that the title of a paper published in, say, English, differs considerably from that of an English abstract of the same paper published in German: identity of the decimal number at once indicates the possibility of the two papers being duplicates. In the case of patents a similar problem arises. Many patents are taken out in the United States, in Germany, in France, and in England, simultaneously or in one country first and in the others some months later. Cost prohibits the publication of an abstract of each identical specification, and in view of the fact that hundreds of patents have the title "Photographic Apparatus" it will readily be appreciated that no system of alphabetical classification according to titles could be used to eliminate duplication. What is done in practice is to use an author index in association with the appropriate decimal number; if a patentee has several patents all with the same decimal number, these have to be examined, otherwise the absence of a patent with the number in question can be taken as evidence that the patent has not previously been abstracted.

The abstracts are printed strictly in decimal order, and in preparing manuscript for press it has been found very convenient to file the abstracts (on 8in. by 5in. paper) in decimal order as they come in, and to file cards of authors in alphabetical order with the decimal number. This system has the advantage that any abstract can quickly be found, that duplicates, if included, are placed together and are easily detected, and that as the manuscript is always ready for press, abstracts can be included in a given issue until almost the last moment. In the publication itself the decimal order makes it possible for a reader to examine any small branch of the subject that is of interest to him.

Recently a subject index for the first ten volumes of *Photographic Abstracts* was prepared, and it was soon realised that some sort of convention regarding subject headings was necessary. The work of preparing a schedule of headings, including decisions regarding such matters as to whether kinematography should be spelt with a "k" or a "c," has to be approached to be appreciated. Now the decimal classification had not been adopted in *Photographic Abstracts* until the beginning of the seventh volume, but in spite of this it was felt well worth decimalising the first six years with a view to using the decimal numbers for the classification. In the preparation of the index, cards were made for each abstract (more than one where cross-references were necessary) with the decimal number as the main heading; below this number were written subsidiary details and the author's name. The 15,000 or more cards were then sorted numerically and main, secondary and tertiary headings were taken from the decimal classification; these were then arranged in alphabetical order; under each tertiary heading the subsidiary headings and then the authors' names were alphabetised. The inclusion of the authors' names was provided for owing to the fact that there are comparatively few research workers in photography and the work of most of them is more well known to the others than is the case in, for example, chemistry. The use of the decimal number as the heading for a card resulted in a very considerable saving of labour. For example, there were over 100 abstracts with the main heading, "Kinematography, using continuous motion of film"; on the decimal system each card was headed 778.532. It must be admitted that a disadvantage of the method used was that a manuscript of the whole index had to be prepared for the printer instead of the cards being sent, but it is doubtful whether any time would have been saved had the cards been prepared entirely on an alphabetical system, nor is it certain that the result would have been satisfactory. The completed index serves not only as an index to the ten volumes that it represents, but also as a guide to all future volumes, particularly for those who are not well acquainted with the decimal system.

NOTES.

The chair was taken by DR. S.C. BRADFORD, from whose opening address the following passages have been taken: The subject of Mr. Horton's paper is one which should appeal to all members of ASLIB, because it is impossible to use information until it has been classified in such a way that it can be found. We know that two-thirds of the valuable scientific information, which is being published at the present time, is not being indexed by the organisations that publish biblio-

graphical matter. This astonishing fact has been established by mathematical analysis of available bibliographies and cannot be gainsaid.

It may be of some help to explain why it is impracticable to make a complete bibliography of any subject by the methods in general use. This is simply because scientific literature cannot be separated into watertight compartments. As our knowledge grows, so it becomes increasingly evident that every branch of science is related more or less closely to almost every other branch of science. Consequently the literature of any special subject is hopelessly mixed with the literature of all science, in such a way that it cannot be extracted readily except by means of the index we are endeavouring to compile.

The few periodicals that are more particularly devoted to a special subject contain no more than a third of the information on that subject. There are border-line periodicals that contain fewer papers on that subject in each periodical, but the number of such periodicals is greater. Journals on subjects closely related to the subject of inquiry contain still fewer papers per periodical. Those journals less closely related include still fewer articles per journal, and so on. But as the number of articles on the special subject in each periodical decreases, so the number of periodicals increases, so that, in the aggregate, more information relative to a given subject is scattered in miscellaneous publications than is collected in those that are specially devoted to that question.

Consequently it is only by carefully scrutinising, part by part, many thousands of periodicals, in most of which no article will be found in any given year, that a complete bibliography of a special subject can be compiled.

Obviously, the method of indexing by subject is not an economic proposition. Instead we should adopt the practice of indexing all the important articles in each periodical irrespective of subject. Then if a standard classification, such as the Universal Decimal Classification, is used, all the references to a given subject will be sorted by the classification and will fall together in the universal index.

The Photographic Society was one of the first societies in the country to recognise the importance of the use of the Decimal Classification with a view to collaborating with other bibliographical agencies in indexing scientific literature as a whole.

Mr. Horton has experienced a difficulty, which is due to the lack of an English alphabetical index to the classification. If such an alphabetical index were available, it would be possible to use the entry corresponding to the decimal number, in the alphabetical index to the classification, as the appropriate entry in the index to Photographic Abstracts for abstracts bearing that number. The subject headings in the classification itself are not suitable, without modification, for this purpose. The process of conversion involves a number of considerations that are worthy of special study. This was undertaken by the committee of the British Society for International Bibliography, which has issued a set of rules for the purpose.

Mr. Horton refers also to another difficulty—i.e., that, on account of the method adopted, the material for the index had to be retyped from the cards in list form for printing. I presume that this difficulty did not arise from the use of decimal classification numbers, but because the manuscript was in card form. And I believe that this difficulty must have been experienced by many editors, because it is convenient to prepare indexes in card or slip form whether the decimal classification is used or not.

It seems to me that the retyping of the MSS. is very undesirable, not merely on account of the extra labour, but because it necessitates an additional proof reading and is liable to lead to error in the index. I may say that when this has been represented to the printer, in cases I have had to deal with, the printer has been willing to accept the MSS. in slip form without extra charge.

MR. A. A. GOMME opened the discussion, in which there also participated PROFESSOR R. S. HUTTON, DR. V. COFMAN, MR. C. H. GRAY, DR. A. BATLEY, and DR. P. S. HUDSON. The full text of Dr. Bradford's communication, together with his remarks in winding up the discussion, may be seen by members on application to the ASLIB office.

Manchester Central Library.

By CHARLES NOWELL.

The opening of Manchester's new Central Library by His Majesty the King on Tuesday, 17th July, 1934, marks the end of an unusual chapter in library history, for, although Manchester was the first authority to establish a public lending and reference library under the permissive powers of the 1850 Act, this is the first central building in Manchester specially designed and erected for library purposes. The original library was opened on 6th September, 1852, and some idea of the growth of the library from its inception can be obtained from the following figures. In the first year the Reference Library possessed 16,013 volumes and recorded an issue of 61,080 to a population of 310,000. The comparative figures to-day for this one department are : 295,550 volumes, an annual issue of 620,852, to a population estimated to be 758,140.

Powers for the compulsory purchase of a site were obtained in 1920, and in 1926 architects of British nationality were invited to submit designs in competition, and certain " Conditions of Competition and Instructions to Competing Architects " were issued. Included in the instructions was a detailed memorandum outlining the general disposition of the various library services, with the approximate area required for each department, which had been prepared by Mr. L. Stanley Jast (then Chief Librarian of Manchester) and approved by the Libraries Committee.

Three assessors were appointed to advise the Corporation on the general conduct of the competition and to adjudicate on the whole of the designs submitted in both the preliminary and final stages of the competition, and to make the award.

From the designs submitted in the preliminary competition six were selected by the assessors, the authors of which were invited to submit final designs. From the results of this second competition the assessors unanimously selected the design submitted by Mr. E. Vincent Harris, F.R.I.B.A., of London.

In 1928 he was officially appointed as architect of the building, and the preliminary work on the new Central Library was put in hand.

The site has important frontages to St. Peter's Square, Peter Street, and Mount Street, and any possibility of an open, extended plan for the building was ruled out. The architect, therefore, adopted the circular form not only for the principal reading room, but for the whole building.

The clearing of the site began July 11th, 1929; the work on the foundations on January 8th, 1930; and the foundation stone was laid by the Prime Minister (Mr. J. Ramsay MacDonald) on May 6th in the same year. The erection of the steel structure was put in hand June 4th, 1931, and from then the great circular building began to take shape. On February 5th, 1934, the removal from the Piccadilly huts and other buildings began. The Reference Library closed there finally on Saturday, March 17th, to re-open in its new quarters on

the Monday following (March 19th) without a break in the service. The other departments followed rapidly, and within a month the transfer was complete.

DESCRIPTION OF BUILDING.

In general design the exterior follows the great tradition of the Early English Renaissance. It is circular in form, being girdled by a Portland stone wall rising to a total height of ninety feet. The first two storeys of this, in which occur large windows belonging to the public rooms, are rusticated to give a broad effect of strength. The next two storeys contain a series of smaller rooms necessitating a large number of more closely spaced windows. To preserve a simple scale these have been recessed behind a colonnade of sixty-six Doric columns. Recessed again, rises above this the blank wall of the spare storage accommodation. The whole is crowned by a pitched roof covered with lead. The main entrance is marked by a portico of Corinthian columns which face St. Peter's Square.

The core of the building is the four-tier steel Book Stack, the lowest deck of which is at basement level. Above the Book Stack, and supported by it, is the Great Hall (the principal Reading Room) which receives adequate natural light through the large lay light in the domed ceiling.

Circling the unit composed of the Book Stack and the Great Hall are six floors, which provide accommodation for the following services :

Basement : Machinery and electrical equipment, Lecture Theatre, Cloak Room and Public Lavatories, Binding and Printing Departments, Packing Room, and Strong Room.

Ground Floor : Lending Libraries.

First Floor : Reference Libraries, Periodical Room, and Exhibition Hall.

Second Floor : Research Rooms, Special Collections, Lecture Rooms, and Committee Rooms.

Third Floor : Administration Department and Staff Rooms.

Fourth Floor : Corporation Records and general book storage.

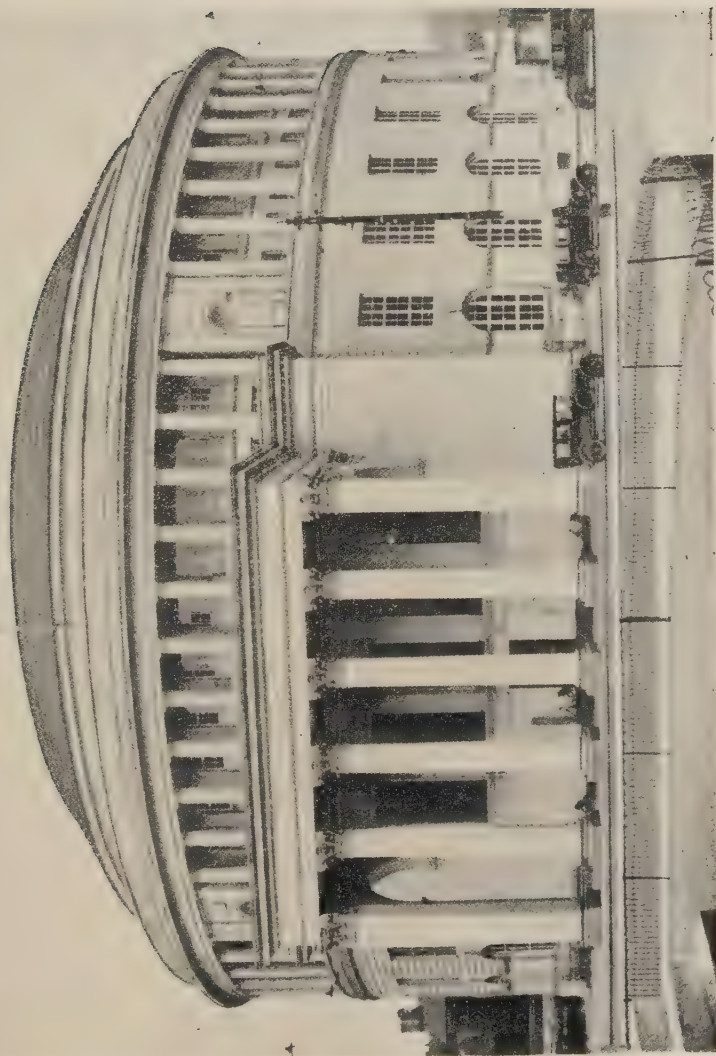
SHAKESPEARE HALL.

The entrance to the building is through the great portico in St. Peter's Square, and leads directly to the Shakespeare Hall, the centre window of which is to the memory of England's greatest dramatist.

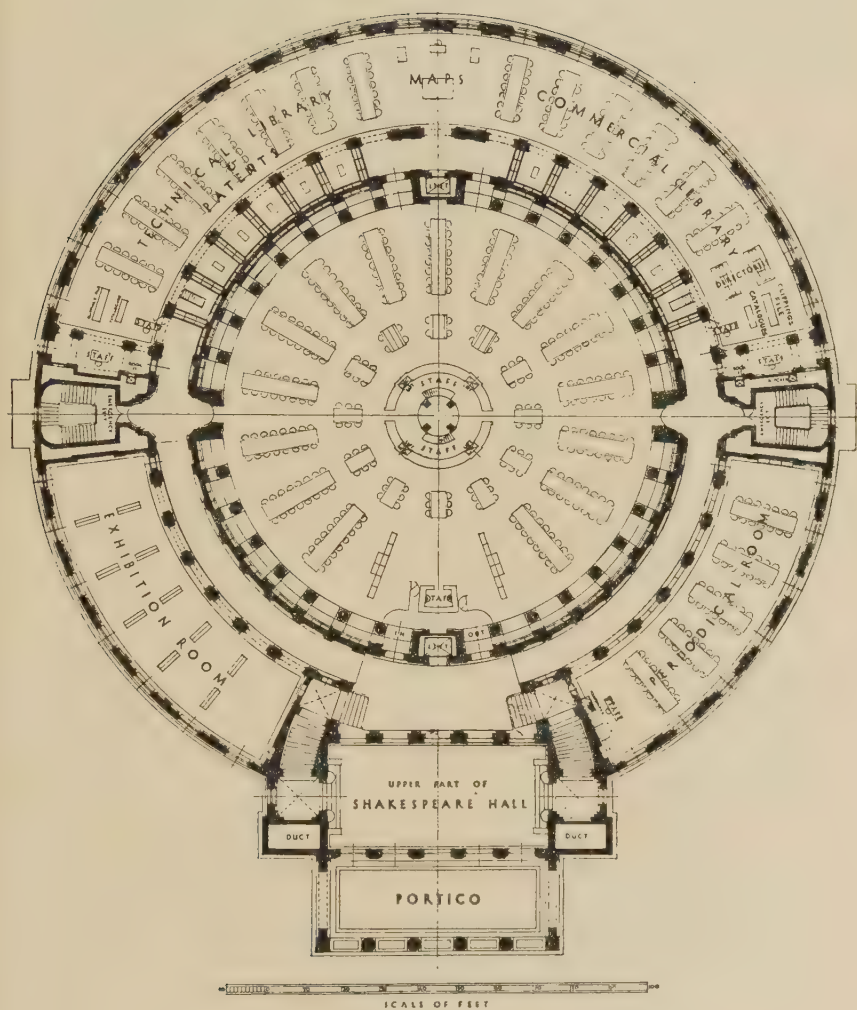
BOOK STACK.

The stack is of the multi-tier bracket type, with flat concrete decks between the four tiers. Around and above it are grouped the various public services in spacious rooms, with natural light from the street, and direct access to the stack. It is as well, perhaps, to place on record that the stack in its entirety was made in England from British steel, and that every machine operation involved in the manufacture was done with machines specially built for that purpose in Great Britain.

There are about 3,600 stack columns supporting 40,000 shelves, each shelf being, of course, adjustable, not only in each tier, but removable and interchangeable throughout the whole stack. The



MANCHESTER CENTRAL LIBRARY.
Viewed from St. Peter's Square.



MANCHESTER CENTRAL LIBRARY.
 FIRST FLOOR PLAN.
 Architect - E. VINCENT HARRIS.

total floor area of the stack is about 7,000 square yards. The stack decks are only $2\frac{3}{4}$ inches thick, but all electric conduits and outlet boxes are concealed inside them.

Lighting fixtures specially designed for the purpose are installed, and the flat white ceilings add considerably to the even distribution of the light.

STACK SERVICE.

The book service from the stack is controlled from the second tier (tiers are numbered from the top). Here in the centre (under the light well from the Service Counter in the Great Hall above) is the Stack Superintendent's desk. Nearby are gravity tubes through which the book application forms are shot, a system of message tubes back to the counter and to every stack floor, and house and Post Office telephones near at hand.

The first tier is, in general, devoted to the Reference Library, but immediately under the Commercial Library, Maps Department, Patents Collection, and the Technical and Science Library the book stores of these departments are housed, to which access is possible from the Commercial and Technical Library by short stairways, and from the Map Department and Patents Collection by lift.

The second tier continues the Reference Library sequence, but, adjoining the Lending Libraries on the Ground Floor, accommodation is provided for the Henry Watson Music Library, the Central Lending Library, the Exchange Library, and the Foreign Library. Thus the open access lending libraries have, immediately adjacent to them, the whole of their collections ready for instant service. The third tier of the stack will eventually contain, in addition to the general book accommodation there available, a grilled space (supplementing the strong room accommodation in the basement) for rare books and certain special collections. The fourth tier is given up entirely to newspapers and other very large books, all filed flat on shelves designed for this purpose.

LECTURE THEATRE.

Stairs lead from each side of the Shakespeare Hall to the basement Cloak Room (with lavatories adjoining). The Crush Hall (of which the Cloak Room is a part) leads to the two principal entrances of the Lecture Theatre, a tiered auditorium seating 300 people. It has an apron stage, a cinematograph projection chamber, and a re-winding room. Three dressing rooms are provided.

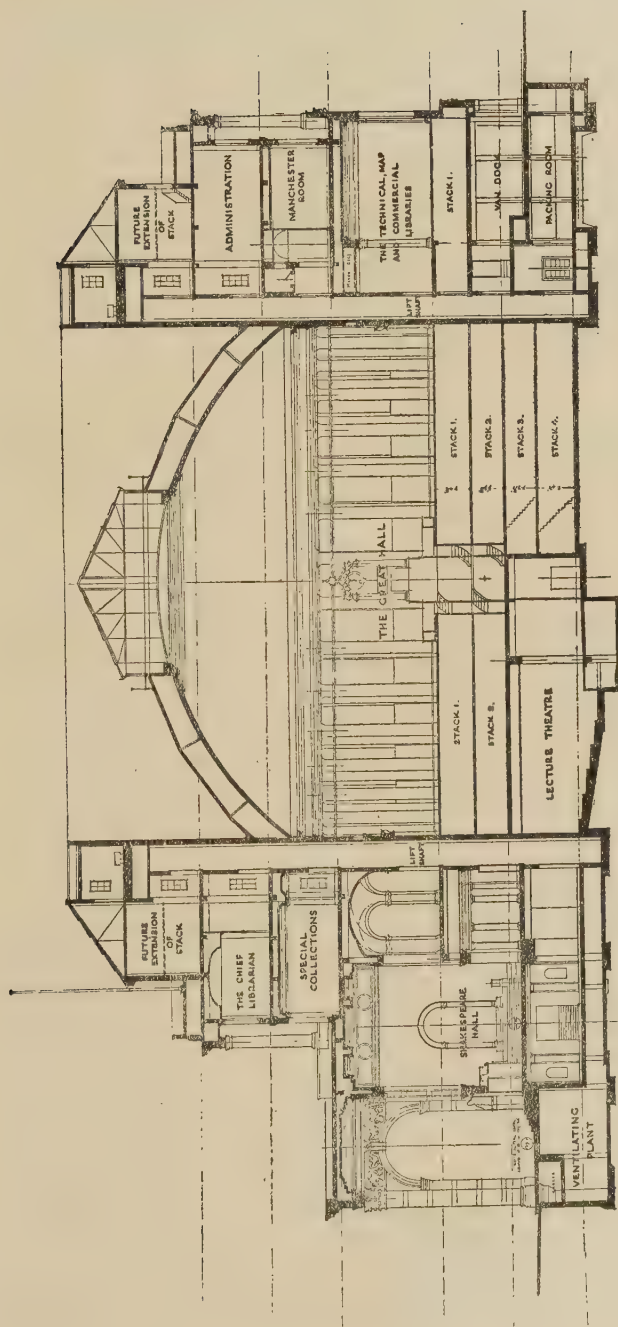
BINDING AND PRINTING DEPARTMENTS.

Near the Packing Room (which is immediately below the Loading Dock on the Ground Floor) are the Binding and Printing Departments. The Bindery undertakes work which cannot, economically, be done by library contractors. The Printing Department supplies library cards, leaflets, labels, etc.

A photographic reproducing machine has been installed in the mezzanine room over the Commercial Library.

HENRY WATSON MUSIC LIBRARY.

The Henry Watson Music Library, situated on the ground floor, is in two sections. The first is a normal open-access lending library



MANCHESTER CENTRAL LIBRARY.
SECTION OF BUILDING.

with the usual features; the second (actually within the first) is a "multiple issue" counter, at which all the work with choirs, orchestras, bands, etc., is dealt with. This library, the nucleus of which was given to the city by Dr. Henry Watson in 1911, is probably the largest public lending library of music in the world.

CENTRAL LENDING LIBRARY.

For the Central Lending Library (also on the ground floor) open shelf provision has been made for about 12,000 volumes, including a selection from the large Foreign Library which now forms part of the Central Lending Library. Doorways connecting both these libraries with their adjacent book stores in the stack are placed in the stack grille at convenient points.

The staff-controlled gates used here and throughout the building have been specially designed to work noiselessly.

REFERENCE LIBRARIES.

The first floor, on which is housed the group of Reference Libraries, is undoubtedly the principal feature of the building. From the Shakespeare Hall it is reached either by the passenger lift immediately facing the entrance, or by the grand staircases flanking the Hall.

GREAT HALL.

In the centre is the Great Hall (the principal reading room), measuring 127 feet in diameter and rising to a height of 61 feet.

The Hall is well lighted from the top, and seats over 300 readers. The tables radiate from the service counter, in the centre of which is a light well to the Stack Superintendent's desk below.

Each reader, on passing through the controlled entrance, is given a reader's ticket, which he surrenders at the centre counter when making application for a book from the stack, and which is returned to him when he returns the book. This ticket must be given up by the reader at the exit counter before he is allowed to leave the Great Hall.

Table lamps were considered necessary in this Hall because of the great height of the domed ceiling. The fittings installed were specially designed to give a good uniform light over the whole table space, with individual switches for readers to control. General lighting in the Great Hall is provided by twelve ten-foot bronze floor standards, each fitted with one 500-watt and three 250-watt projector lamps.

Each seat is lettered and numbered, and uniformed messengers bring to each reader any books requested from the stack.

Around this reading room are open shelves for about 10,000 volumes, arranged in shallow alcoves between twenty-eight scagliola columns, behind which are the concealed lights for the bookcases.

It will be observed by visitors that there are no doors on this floor. This is to preserve uniform temperature in the building and to avoid draughts. Although there are six arches round the Great Hall, there is actually only one entrance and one exit.

All the furniture in this Hall and all movable furniture in every public room in the building is in English walnut, most of it beautifully figured.

PERIODICAL ROOM.

On the outer circle of this floor are the associated services of the Reference Library. On the right (from the Shakespeare Hall) is the Periodical Room, which contains all the general publications (each with a box for back numbers to save staff journeys to and from the stack). Here, also, are files of the principal daily papers for the four weeks immediately preceding.

COMMERCIAL AND TECHNICAL LIBRARIES.

Through the adjacent corridor are the Commercial Library, the Map Department, the Patents Collection, and the Technical and Science Library, arranged in one large room approximately 180 feet long and 40 feet wide. The open shelf accommodation in this room is for about 8,000 volumes, and is arranged in alcoves on the inner wall. The wall panelling and the alcoves are in bleached English oak, the top of each pilaster being finely carved. Between these carved pilasters are sprays of carved lime wood, whilst at each end of the room are gaily-coloured reproductions of local heraldry.

EXHIBITION HALL.

Completing the circle of rooms is the Exhibition Hall. The glazed bronze cases are fitted with shelves which are adjustable both horizontally and vertically.

SPECIAL COLLECTIONS AND RESEARCH ROOMS.

Half the second floor accommodation is devoted to one large room, in which are housed some of the special collections of the Reference Library, with seating accommodation for about thirty students.

Twelve carrels, or studies (each fitted with bookcase, table, and chair), are also provided for research workers who are using one set of books for a period. The use of these rooms is, of course, free, but they are only available upon written application.

LECTURE AND COMMITTEE ROOMS.

Four fairly large rooms flanking the corridor on this floor are intended for use by learned societies and other associations serving the same purpose as the Libraries. They include the Lecture Room (with seating accommodation for about seventy-five persons) and the Lancashire and Manchester Rooms, each of which contains a select collection of books devoted to Lancashire and Manchester respectively.

Adjoining these are the Committee Room (panelled in Quebec yellow pine), the Chairman's Room (in Australian black bean), and the Reception Room (in English elm). As in the public rooms, the furniture is in English walnut.

ADMINISTRATION.

On the third floor the largest room is devoted to the general administration department: Book selection, accessions, orders, lending library cataloguing and classification, library interchange, branch distribution, accounts, and supplies. Adjoining this is the Staff Dining Room (with accommodation for sixty persons) and

Kitchen, with service lift to the Reception Room below on the second floor, and to various other points in the building. Nearby are staff cloak rooms, locker rooms, a common room, and a first-aid room.

There is a general office for all typing and duplicating, and separate offices for the Chief Librarian (with Secretary's office and waiting room), Deputy Chief Librarian, and Superintendent of District Libraries.

FUTURE EXTENSION.

The fourth floor has been temporarily fitted with steel shelving from the old building at Piccadilly. This is to be used for the storage of records belonging to the Corporation until such time as a two-tier stack is needed (for which the floor has been specially prepared). It will ultimately give overflow accommodation for about half a million volumes.

ELECTRICAL EQUIPMENT.

The building is "all-electric" and has what is believed to be the largest electrode heating installation in the world. It combines a plenum system of ventilation with thermal storage.

Electricity is received from the Corporation's 6,600-volt, three-phase sub-station in the basement, and the electrode "boilers" (two 3,000-kw. circulating heaters) are housed in a room adjoining, with five storage tanks nearby for 45,000 gallons of water.

Supply failure (so far as the lighting is concerned) is guarded against by an emergency system of accumulators which supply 125 lights at key points throughout the building. This system is normally trickle-charged.

Permanent flood-lighting fixtures are installed at the base of the columns on the second floor, and the lighting is effected by sixty projectors fitted with 180 lamps.

The building is heated partly by direct radiators and partly in conjunction with a balanced system of plenum and extract ventilation, the radiators being placed principally on the outer walls.

Warmed and filtered air is delivered throughout the building by a system of ducts. All the air used is filtered with a spray washer to cleanse it thoroughly and maintain a fixed humidity. The air can be re-circulated, wholly or in part, at will.

In the engineer's office in the basement there is an electrical indicating thermometer by which the engineer can observe the temperatures at twenty-four different points in the building.

The electrical equipment also includes a private telephone system with thirty-two points, thirty-three clocks operating on the impulse system, nine calorifiers for domestic hot water in various parts of the building, a kitchen for the staff canteen, six book lifts, a service lift, a passenger lift, and a goods lift, a vacuum cleaning pump drawing from 200 service points, and a system of message tubes throughout the book stack and to the centre service counter.

The Radcliffe (Science) Library, Oxford.

By H. F. ALEXANDER, M.A.

Although it is the general object of this paper to give some description of the new building, or rather extension, of the Radcliffe (Science) Library, it would not be out of place to preface it with a short summary of its history and development. The new Extension in Parks Road enlarges the third home of the Library. For a little over the first hundred years of its existence the Library was housed in the Radcliffe Camera, which was built 1737-47 as a result of a bequest from Dr. John Radcliffe (d. 1714), the distinguished Royal physician and one of Oxford's sons. It is interesting to remember that Radcliffe as a physician relied very little upon books. In reply to an enquiry as to the whereabouts and extent of his library he is said to have indicated a herbal, some phials, and a skeleton. It is surprising, therefore, that he willed "that my executors pay forty thousand pounds . . . for the building a Library in Oxon." He further bequeathed £150 per annum for ever for a "Library-Keeper" and £100 a year for ever for buying books for the Library. Opened in 1749, the Library was more or less general in nature at first and became devoted to "Physick" and Natural History only at the beginning of the nineteenth century. In 1860 scientific studies in the University received a great stimulus by the building, at a corner of the Parks, of the New Museum in and around which science teaching and research in Oxford have since been centred. The Radcliffe Trustees, who were responsible for the government of the Library, transferred the books under their care to the Museum soon after its completion in order that the scientists should have a library devoted to their subject as handy as possible. A little later the Bodleian Library was given the use of the vacated Camera and it became a Bodleian reading-room for modern books.

With the steady growth in importance of scientific studies in Oxford and the great increase in scientific literature the Museum rooms allotted to the Library soon filled up and finally approached saturation point at the end of the last century. Departments in the Museum were also feeling the need of expansion, so that there was little hope of the Radcliffe Library being granted additional space in the Museum itself. By the munificence of the Worshipful Company of Drapers, a new library building, designed by Sir Thomas Jackson, was erected adjoining the Museum in 1901 and the Library was transferred. The new building contained two long reading-rooms, a two-deck bookstack, administrative rooms, etc.

The two reading-rooms were assigned respectively to the Physical Sciences (including Mathematics) and the Biological Sciences with Medicine. The book-capacity of the new library building was about one hundred thousand, while desk-accommodation was given for sixty-four readers, which must have seemed a very liberal provision at the time, but which, within thirty years, was not sufficient for the needs of scientists in Oxford. A large collection of books and

periodicals was placed upon open shelves in the reading-rooms. It is this building which has just been extended.

During the present century the Radcliffe Trustees struggled bravely to keep pace with the extraordinary growth of scientific literature, intensified since the Great War, and did so with great success considering the limited financial resources at their disposal. Negotiations took place with the Curators of the Bodleian Library during the librarianship at Bodley of Sir Arthur Cowley with a view to affecting an amalgamation between the Bodleian and the Radcliffe. Finally in 1927 the Trustees handed over the Radcliffe Library and its contents to the University and it became a department of the Bodleian. The Trustees now pay £1,500 a year from the Radcliffe estate towards the running of the Library, the remainder coming from Bodleian and University sources. It is now possible to take in more foreign literature than before, although some retrenchment was necessary last year, and the Radcliffe since the amalgamation has enjoyed the advantages of receiving accessions under the Copyright Act.

The Library Commission which reported to the University in 1930 recognised the need for more space both for readers and books in the Radcliffe Library and recommended that the existing building be extended westwards and northwards to form an L-shaped structure. This was the best solution of the problem under the circumstances for the ideal method of extension in an easterly direction, bringing the existing main staircase and administrative rooms in the centre between the projected new building and the existing Library, was ruled out by the existence of a chemical laboratory immediately to the east.

The construction of the extension was the first part of the building programme of general Bodleian expansion to be put in hand for two main reasons. The site was already available and further room for library facilities for Science was urgently wanted. The structure projected was estimated to suffice for a long time to come and some of the stackroom could be used at once to relieve the congestion in the Bodleian until the Broad Street building was ready. This is now being accomplished by the transfer of the science books received by the Bodleian since 1880, many of which have had to be borrowed temporarily for use in the Radcliffe in the past, and of one other section of the Library.

It is common knowledge that the large sums of money required for the materialisation of the full Bodleian plan have been raised or promised, the Rockefeller Foundation of New York leading the way with the generous contribution of three-fifths of the cost, the remainder being obtained by the University through the munificence of City Companies, Banks, Oxford Colleges, private individuals, etc. The cost of the Radcliffe Extension was put at approximately £45,000.

One of the first activities of the Bodleian Building Committee which had been set up was the appointment of an architect for the new Radcliffe Library building. Mr. J. H. Worthington, F.R.I.B.A., of Manchester, was chosen and he had the extremely difficult task of designing a building which would harmonise as far as possible with the present one and its heterogeneous surroundings, which include Sir Herbert Baker's Rhodes House on the one side, the Venetian-Gothic Museum and the Early Gothic of Keble College on the other.

Mr. Worthington's success has been most marked in this as well as in other respects nearer the librarian's heart. Operations started in March, 1933, and have just been completed.

The exterior, of Bladon stone with Clipsham stone, has shallow projecting bays giving a wave-like appearance which breaks the hardness of the long straight line. The cornice lines of the original building have been maintained and continued in the new. The coats-of-arms of Dr. John Radcliffe and Sir Thomas Bodley adorn the extremities of the road front and the amenities of Parks Road have been improved by a lawn and low coping-stone which flank both the new and old buildings.

The new building, which is linked up with the original building on all floors by roomy corridors, contains two large reading rooms on the first and second floors respectively, a three-deck bookstack at or about ground level, a handsome oval staircase at the north end, lighted by long slender windows, and two special rooms at the south end, one for rare books and the other for committee meetings and other purposes. The total length of the building is 160 feet and the greatest internal breadth 33 feet.

The reading-rooms, though of identical proportions with regard to floor space, 103 feet by 33 feet, differ in treatment. The upper room is divided off into alcoves on either side of a wide central aisle. Each alcove is separated from the next by a projecting bookcase and has a barrel vault. In these alcoves will be placed reading-desks and chairs. The sense of cosiness and privacy should be very strong to a reader in such an alcove. At the south end of this reading room is the Committee Room, which will also house valuable books. The outer wall of this, as of the Rare-book Room immediately below, is in the shape of a graceful curve and contains three long windows.

The reading-room on the first floor is divided into alcoves for reading-desks as on the second floor, but the ceiling is continuous from one side of the room to the other. In the centre is a spacious gangway eleven feet wide. There is a temporary modification of this room in accordance with a recommendation of the Library Commission. A length of forty-four feet at the north end has been set apart for mathematical teaching and research pending the erection of a proposed Mathematical Institute. The space allotted has been divided by soundproof partitions into four professorial rooms, a seminar, and a common-room. When these rooms are vacated in the not very distant future the space will be used to extend the reading-room to its full length.

The rare book room at the south end of the first floor will contain a handsome exhibit case to display treasures, and shelves specially adapted for the many large and valuable illustrated works possessed by the Library.

The two reading-rooms have in each alcove a sash-window almost from floor to ceiling and four feet nine inches wide, thus obtaining a very generous allowance of light. The bookcases are of light English oak, while the walls above the cases are of a cream tint. A special feature is the heating by Ray-rad panels at each side of the windows, with the consequent elimination of unsightly radiators. The reading-desks, which have partitions in the centre, will accommodate two persons on each side and will be six and a half feet long

and four feet wide. Each alcove has a floor space of thirteen feet by nine feet. Floor covering is of battleship linoleum on cork.

There remains the book-stack. This runs the length of the new structure, except for the staircase-space, and is divided into three decks by two reinforced concrete floors, each three inches thick. The stanchions for the stacks support these floors and there are two staircases leading from the top deck to the bottom. There are no rolling stacks. The walls are covered with light primrose glossy tiles and daylight is given to all decks by means of a deep open area on each side of the building. Artificial lighting is by means of the Wigan-Snead prismatic light sunk into the ceilings on the two lower decks, and the Snead stack light of perforated aluminium on the top deck. The steel shelves and supports are of a very light coffee colour to help lighting. The two bottom decks are six feet nine inches in height and the top seven feet four inches. The rows of stacks are three feet apart, giving ample room for access. The capacity of the whole book-stack is approximately two hundred thousand octavo volumes.

By the north staircase and again between the old and new buildings are passenger and book lifts giving access to all floors.

Certain structural alterations have been made in the original library. The former staff entrance in South Parks Road opposite Rhodes House has been considerably widened and made into a dignified entrance with two handsome vestibules carried out in Italian marble with Swedish marble surrounds. Indoor communication with the Museum leading from the entrance hall has been retained. A small porter's room has been added, giving provision for the reception of books and parcels. On the second floor a room has been partitioned off for the superintendent, whose former sanctum on the first floor now becomes a cataloguing and process room. This will be a hive of activity for some years to come, as the card Catalogue is being (1) expanded to include the scientific books transferred into the extension, (2) revised in conformity with the new Bodleian cataloguing rules, and (3) converted from a thirty-year-old cabinet of obsolete dimensions to a modern one of standard type.

A word may be said about readers' privileges in the Library. All the books in the reading-rooms are on open shelves, while heads of departments, demonstrators, and a few other research workers are allowed by University Statute to borrow books for use in their own departments, and also are granted access to the stacks. The subjects catered for include Chemistry, Physics, Astronomy, Mathematics, Engineering, Geology, Mineralogy, Biology, Zoology, Anatomy (Comparative and Human), Botany to a small extent, Physiology and Biochemistry, Pathology and Medicine, Pharmacology, Anthropology, Agriculture and Forestry. Nearly one thousand current periodicals are taken. The Librarian is greatly helped in the selection of foreign books and other matters by an Advisory Committee.

Books are now being moved into the new building and the opening ceremony will take place early next November.

NOTE.

The chairman on this occasion was SIR MICHAEL SADLER, from whose introductory notes the following excerpts are taken : After speaking of the debt which like thousands of other students he owed to the Manchester Central Library and the Radcliffe Science Library, Sir Michael expressed a strong hope that England might shortly possess a special library for students of education which, in range, convenience, and power of acquiring punctually new publications, would be comparable to the great library of Teachers' College, Columbia University, City of New York. In saying this he did not forget the resources of the Board of Education Library, which, however, is not open to the public except by special permission. The right place for the new great library devoted to education would be London, and the ideal home for it the London University Institute of Education.

It is the special characteristic of English educational policy never to have been untrue to the instinct that education is as wide as life, and that a pedagogy which becomes overspecialised is not only pedantic but perilous to the national interest. The English traditions (there are at least two traditions, not one) in English education should now endeavour to become more critically aware of their significance and of the conditions of their survival, without losing the spontaneity of unself-conscious habit and the insouciance of casual experiment. To secure this analysis and evaluation of each of the great traditions which are blended in English education, we need a body of students and thinkers who are also versed in the practice of education, and who will interpret to the world not only the administrative structure of English education, but the inner life and spirit of it.

Sir Michael believed that no greater need existed in the sphere of library development than the creation in London of such an instrument of study of the movement of forces which make up what we in England believe to be a living education.

The discussion on the two papers was opened by PROFESSOR R. S. HUTTON, who welcomed the building up of new resources in Manchester and in Oxford. The lecturers then answered questions from PROFESSOR HUTTON and MR. B. M. HEADICAR with regard to times of opening, the lighting and heating systems, and smoking facilities. MR. DONALD CALEY spoke in reply to Mr. Nowell's remarks as to the inaccuracy of the "Popular Press." He agreed, but felt that the matter rested chiefly with the public, since newspapers would soon take care to be more accurate if their readers complained more often about mistakes.

The Idea of Planning.

By L. URWICK, O.B.E., M.C., M.A.

*Chairman, Urwick, Orr and Partners, Ltd., formerly Director,
International Management Institute.*

One of the most outstanding characteristics of our current society is its capacity for abusing words of use. It may be the counterpart of a declining competence in using words of abuse. Oaths are not as round as they were. Whether this can be traced to the discoveries of Professor Einstein or merely of better manners, it is difficult to say. The fact remains that what Mrs. Malaprop called the "derangements of epitaphs" is an increasing factor in popular misunderstanding and the social scepticism which results from it.

This abuse of words may be roughly analysed into the portentous, the pussyfoot, and the pharmaceutical. Of these, the last is by far the most serious. Examples of the first two will suffice to indicate their character or lack of it.

The portentous abuse of words is sometimes called ontology. Broadly speaking, it is a mechanism of escape invented by deducting thinkers, when what they have to say sounds too much like common sense to support a reputation for erudition. I am indebted to a recent broadcast argument between Professors Levy and Ogden for a delicious example:

"Here's bit of philosophy which makes use of only four simple words—'it,' 'that,' 'not,' and 'is':

That that is, is. That that is not, is not. Is not that it?
It is.

"Here is the same thing inflated:

It cannot be denied that an entity which possesses the property of existence is an existential entity. On the other hand, a negative fact has no such status in the realm of being. Do not the above propositions afford a correct statement of the entological problem? The answer is in the affirmative.

"That was done with forty words—an inflation of 1,000 per cent."*

The pussyfoot abuse of words is more dangerous, though possibly equally unconscious. I am again indebted to Professor Ogden for a classic in this order. The popular pastor of a fashionable New York church was preaching to his congregation on the Christian attitude towards wealth. It was in the days of full-blooded prosperity. "Jesus, he explained, did not say, 'lay not up for yourselves treasures upon earth.' He said, 'lay not up for yourselves treasures upon earth *where moth and rust doth corrupt and where thieves break through and steal.*' And no sensible American does. Moth and rust do not get

* *The Listener.*

at Mr. Rockefeller's oil wells, and thieves do not often break through and steal a railway. What Jesus condemned was hoarding wealth."

As Professor Ogden comments, "when moth and rust have been eliminated by science the Christian investor will presumably have no problem, but in the meantime it would seem that camphorated oil fulfils most nearly the synoptic requirements. Burglars are not partial to it; it is anathema to moth; and the risk of rust is completely obviated."*

So charmingly naïve a creation almost escapes censure. But, like other charmingly naïve creations, it is calculated to lead plain men astray.

The pharmaceutical abuse of terms is a much more serious proposition. It is the reverse of ontology. Instead of inflating a simple meaning into a complex group of phrases, it takes a new and straightforward term expressing a useful conception and inflates its meaning till it bursts and the idea with it. I have called it the pharmaceutical abuse, because it originates in the same tendency which still tempts large portions of society to rely on patent medicines instead of on medical skill.

At this juncture in the world's history it is an extremely dangerous tendency especially in matters which touch on economic life. Humanity has, and will have to an increasing degree, very real difficulties in adjusting its social structure to its changed methods of production. The ideas, the traditions, the habits of thought, the complex of associations and relationships, founded on centuries of handicraft manufacture linked to natural methods of transportation, simply will not work in an age of steel and steam and oil and electricity, founded on an unprecedented advance in the physical sciences. Strains and stresses are inevitable, and the strains and stresses in the social order spell untold suffering for millions of individual human beings, incredible wastes not only of wealth but of health, not only of livelihood but of life itself.

The one chance we all possess of minimising these strains and stresses, of insuring ourselves as far as possible against their worst consequences, is to learn to think as clearly and as precisely as possible, in terms compatible with the problems with which we are trying to deal. That is to say, if we are going to win our material needs through a system of production based on scientific knowledge, we have got to think scientifically about the social and personal and economic problems which that system of production has created. But each time that we take a useful term expressing an idea of potential value and overload it with all kinds of vague aspirations till it has no meaning at all, we are thinking, not scientifically, but superstitiously.

In fact, we are behaving exactly as more primitive societies when they unload their troubles into some variant of the old trilogy of medicine, magic or religion. We are merely substituting for their particular manifestation of mumbo-jumbo, a mumbo-jumbo of our own. But, if there is any advantage in replacing bad spirits and good spirits, wood gods and water gods, with bad words and good words, wooden heads and water on the brain, it is not obvious.

You will perhaps excuse me if I am a little acid on this point. I have given my adult years since the war to the study of business

* *The Meaning of Meaning.*

organisation, and that field of enquiry has suffered more than any other from this treatment of words as though they were either poisons or patent medicines. First there was scientific management—a clear concept with a perfectly definite and useful meaning amply expressed by its inventor. Because a variety of quacks sought to exploit some of the inventor's laboratory equipment without any knowledge of either science or management, the concept was lost in a confusion of controversy.

Scientific Management was followed by the word Rationalisation. It is a perfectly good word. It possesses the somewhat unusual distinction of having been defined by the most authoritative international congress which has ever discussed economic questions. The idea for which it stood has issued and is issuing in a mass of solid and useful work all over the world. But no one has paid other than the most superficial attention to its meaning. I have myself collected over fifty authoritative and conflicting definitions expressing every variety of emotional and intellectual prejudice. And because the mere muttering of its syllables as a kind of incantation didn't stop Wall Street gambling, Hatry or Kreuger promoting companies, the Danubian countries growing too much wheat or Brazil too much coffee, it is now surrounded by an atmosphere of weariness, disappointment, and mistrust. The very strength of the enthusiasm with which the term was greeted has raised a definite obstacle to serious study of its implications, of the ideas underlying it.

We now find the word *planning* occupying an increasing part of the thought of serious people who are dissatisfied with the present working of our economic life. I say serious people, because to be dissatisfied is not necessarily to be reasonable. Irresponsible dissatisfaction is a pathological condition which calls for the services of a neurologist, not of an economist. It is as dangerous as a detonator and about as useful. And the first task of those who are interested in the idea of planning is to protect it against the dangers from the pharmaceutical use of terms which I have sketched. They are very real dangers. Signs are not lacking already that "planning" in its turn will be elevated into a "blessed word," canonised into a kind of miracle worker, so that we must only have faith and touch its big toe for all our ills to be dispersed.

The danger that the idea of "planning" may become all inspiration and lack the backing of intellectual perspiration is all the greater in that the idea is fundamentally simple. We live to-day in what is a price-economy. That is to say, all the decisions which determine how the world shall be fed and clothed and housed and educated and transported and amused are, at all events in theory, and largely in practice, based on the pull of price in a free market and the influence which price exercises on the desires of individuals for more material or immaterial goods. That is to say, there is, again theoretically, nothing whatever to co-ordinate the reactions issuing from the countless expressions of these motives except the mechanism of price. Those who are satisfied with the world's present economic situation will argue that the product of all these different "pulls" operates automatically to secure the best arrangements possible in the circumstances, that all the various maladjustments which are sufficiently obvious are either part of the inevitable cost of development or are

due to misguided attempts to interfere with this self-adjusting system—the result, a short-sighted inability to put up with the temporary sufferings of other groups or classes and thus allow economic laws to work themselves out.

Planning, if I understand it correctly, directs attention to the unco-ordinated and erratic character of the accumulated individual decisions on which it is based. More particularly it finds it difficult to digest the fundamental contradiction of an unplanned competitive economy. The true test of economic production is that cost and satisfaction, correctly measured, should balance. From the standpoint of the community the manufacture of every article should be carried to the point at which further supplies would be judged, by those who are to have them, as definitely not worth the cost of making. But it is to the interest of all those concerned with the manufacture or sale of any article in a price economy that the article in which they deal should be scarce and dear—the scarcer and dearer the better. Far from wishing to achieve a balance between cost and price, their sole preoccupation is that price should outweigh cost by as much as they can make it. As the wise child remarked on hearing that his father was a professor of economic history, “Does that mean that you teach as little history as possible for as much money as possible?”

Moreover, traders making up their programmes in ignorance of what their colleagues are doing have a double interest. The total of any kind of goods available should not pass the point at which these can be sold profitably. But each trader's concern is that the largest possible proportion of that total should be dealt with by him and not by his fellows, so that he can realise the profit on it. Moreover, the penalty for a small margin of surplus production or buying has to be paid by everyone: if five per cent. of the available supply of a particular article is sold under cost, the whole supply must be sold under cost.

This inherent tendency to overshoot every mark must arise whenever it is to everyone's advantage to be the one exception to a rule which everyone else observes. When an agreement among traders to share a market has been made, it is immediately to the interest of every one of the signatories to break it, provided that he can rely on its being faithfully observed by all the others. Equilibrium is perpetually unstable. First, every man's hand is against his neighbour, and when some degree of collaboration has been introduced, by the prospect of exploiting the rest of the community more successfully, the dis-integrating process sets in afresh from within.

The prospect of the world avoiding complete financial and economic break-down, both nationally and internationally, probably depends more than on anything else on the degree to which it is found possible to reverse those policies which seek to promote the interest of a part without regard to the effect on the whole.*

In short, Planning is an attempt to substitute some form of conscious arrangement of economic life, for the automatic controls which under a competitive price economy are relied upon and presumed to secure that the self-interests of all the parts operate for the ultimate welfare of the whole. Its purpose is to eliminate the paradox in the working

* The lecturer is indebted to Miss Barbara Wootton's *Plan or No Plan* for certain of the ideas developed in this and the immediately preceding paragraphs.

of a free price-economy which has been described. As an idea it rejects the implication that it is impossible for human intelligence to secure the knowledge and to devise the forms of organisation necessary to obtain a better control of the material aspects of human destiny. It recognises that the international character of modern industry and commerce render any completely effective planning impossible without a far larger degree of co-operation between national units than exists or is contemplated at present. But it suggests that this fact does not render it impossible for any given national unit to introduce a far greater measure of conscious and systematic organisation into its own internal economic life. Indeed, only as between national units thus deliberately co-ordinated and aware of what they are doing themselves is it possible to conceive of effective international planning, in view of the nationalist emotions and forces released by unplanned competition in the world of to-day.

In contrast with many of the earlier forms of Socialism, however, Planning is not inclined to over-emphasise the moral critique of the existing order. It does not imagine that a mere elimination of the profit stimulus or the transfer of property in the equipment of production to the community would of themselves make for very much amelioration of our existing arrangements. The motive of self-interest would probably survive in a modified form, with many of the same consequences as at present. In short it does not place any large confidence in sweeping transfers of authority of any kind from one social group in the community to another social group in the community, or from one form of organisation to another form of organisation. It appreciates that the price-economy has of itself given rise to an extremely complex network of organisations, mechanisms, and relationships. If chaos and breakdown are to be avoided, it is essential that as much as possible of the existing machinery should be adapted to the fundamental idea of planning and take its place in the re-constructed system.

In other words, it is not primarily concerned with Control, but with controls. It is not so much interested in Authority as in Power. Power has been defined by my friend the late Mary Follett as "the ability to get things done." Authority is the formal right to require action of others. They should, of course, coincide. And one of the most potent symptoms of the failure of our current economic system to meet the new requirements introduced by modern mechanical production is that they fail to coincide so frequently. If, in any given form of organisation we can discover where the real power resides and make sure that it also enjoys the authority, we are nine-tenths of the way to securing that that piece of organisation is adapted to carry out the purpose for which it was intended.

That is the real answer to the question which is so often put whether it is any use trying to conceive of a planned economy which does not include arrangements for the Control of all economic activity. People who put that question are unconsciously subscribing to the Socialist thesis of twenty years ago. They are imagining that Control necessarily connotes some kind of centralised government on the political model, with the usual substructure of councils and commissions and committees and a bureaucrat's dream of interlocking departments. Quite properly they regard any such possibility as a plain man's nightmare.

But, in a society which depends to an ever-increasing degree on scientific work and discovery as the foundation of its economic life, power is essentially a function of knowledge. No prime minister can, in virtue of his office, make two ears of corn grow where one grew before, but the Cambridge experimental station can. As Henry Ford once remarked, "A man can be ordained a bishop. But no one can ordain a man an electrician. He must first know something about electricity." And this shifting of power is extending beyond the physical sciences dealing with material things into the domain of the sociological sciences, dealing with human beings. The day is not far distant when no man will be considered fit to occupy any position of administrative responsibility who lacks an adequate training in the findings of experimental psychology. It is probably not an exaggeration to say that a recent famous report on nutrition by the British Medical Association is more authoritative from the standpoint of internal politics than anything which the House of Commons has done in the last eighteen months. It is my own personal conviction that the actual organisation of human activities, all the questions of appointment and promotion and central and local authority on different matters and so on, which are at present treated almost entirely as questions of political opinion, will in the years to come be recognised to be in themselves matters of technical knowledge and skill.

If this view is correct, Control and Authority as we conceive these things will take on an entirely new aspect. There will be less of the bishop stuff and much more of the electrician. We shall hear less and less of authority exercised because a man has so much capital or has won so many votes or has been appointed by this, that, or the other process. We shall have more and more of the kind of authority already exercised by the members of the recognised skilled professions in matters which fall within their competence. A works doctor is appointed by the directors: but, if the factory is properly organised, no active director will question the works doctor's finding if he is ordered a month's rest. Even quite subordinate officials, such as trained cost accountants or advertising men, or chemists, have an authority which has nothing to do with hierarchy, but is the recognition of special skill in the performance of a specialised function.

I am not seeking to evade the quite obvious and real difficulty that if some genius produced a perfect plan to-morrow and there was no authority to enforce it in a world still largely dominated by the ideas and traditions of a competitive price economy, that plan would break down. Of course it would. But, it is obvious that the full working of a competitive price economy has already been profoundly modified and is in process of being remodelled with accelerating speed before our eyes. Each time that the Government assumes partial control over some economic activity by establishing some new statutory authority or marketing board, each time there are important amalgamations in any trade, each concentration of control in banking or insurance or retailing, is a narrowing of the possibilities of the complete working of the competitive price system and an expansion of the areas over which some degree of planning is possible. Thus I see the whole question of control as an evolutionary

process. On the one hand there is a constant modification of structure and on the other a less perceptible, but equally fundamental, change of ideas about the way control is exercised and the meaning of authority.

When, therefore, people babble about Control, with some hazy vision in their minds of the whole economic life of the country being run by some ghastly extension of the Revenue and Estate Duty Departments, I feel that they are essentially out of touch with the evolution in which we are all taking part. They fail to appreciate the first principle of planning, which is the fact that it does away with a great deal of the need for formal authority and control by individuals and committees. The plan itself takes over a large part of the functions, which, in the absence of a plan, create the necessity for individuals to throw their weight about. As F. W. Taylor, the first man to think seriously about planning in industrial management, wrote nearly forty years ago :

“The shop, and indeed the whole works, should be managed, not by the manager, superintendent, or foreman, but by the planning department. The daily routine of running the entire works should be carried on by the various functional elements of this department, so that, in theory at least, the works could run smoothly even if the manager, superintendent, and their assistants outside the planning-room were all to be away for a month at a time.”*

This leads me to the second point which is always arising when planning is being discussed. It is really an extension of the Control complex. People ask, is planning possible in a free economy? Of course, they beg the question by using the adjective free. To those who have been brought up in the political traditions of this country freedom is a priceless thing in itself—one of the half-dozen really worth-while things in the world. The Britisher has a passion for his own dunghill and for rooting in it in his own way. The question again really suggests a horrid vision of everyone regimented and numbered, taking to his desk by programme, answering his letters by timetable, being allotted a plain secretary to restrain him if he is a young man and a pretty one to stimulate him as he approaches pension age.

But has this vision really anything to do with the matter? In so far as there are a fair proportion of Englishmen who, when dressed with a little brief authority, love to swathe others in yards of red-tape, yes. But it is to be hoped that any rational system of planning will include a rational system of selection and placement, and that children who like playing with red-tape will be graded omega minus for administrative positions. The late W. H. R. Rivers dropped the psychologists who have followed him a useful hint when he suggested that the worst cases were pathological—examples of an exaggerated defence-mechanism developed by the incompetent to protect themselves against a sub-conscious recognition of their own futility.

What we mean when we appreciate freedom is reasonable opportunity for the exercise of individual choice and initiative. Now, as far as the great proportion of the population are concerned, no one can pretend that the working of the competitive price-economy as

* *Shop Management*, p. 110.

we see it round us to-day makes very extensive provision for these things. In theory it permits any man to seek his livelihood in the way that pleases him and to succeed if he can. In practice it works erratically. However much we may worship material success, we know that it comes to but a small minority. However much we may pretend that it correlates with any standard of personal merit which the majority of intelligent and sensitive people would accept as valid, we are uneasily conscious when we meet the winners that the most glittering prizes fall about as logically as those in an Irish sweepstake. When we are shaken into reality by a great catastrophe such as a major war, we suddenly reverse all our usual standards and describe as "profiteers" those whose greater shrewdness wrings security and honours from our perplexities.

To those, then, who ask whether planning is possible in a free economy, I would offer a threefold answer. Our present economy is not free in any valid sense of the term. It is full of interferences and compromises. These interferences are of two kinds. On the one hand there is social legislation—compromises with a public conscience which could not tolerate longer the spectacle of unabashed economic licence. On the other there are what may be called measures for the protection of traders—concessions to the interests of this or that group at the expense of the whole, wrung from governmental authority by various forms of political pressure. In the second place, even within the limited degree of freedom left to our economy by these measures, the pressure of technical development has forced upon us larger and larger units of control. And the selection of those who exercise that control, a contracting minority, is haphazard and erratic. For the vast majority of the population any real opportunity for the exercise of economic initiative is wholly lacking. Such opportunity as still remains is increasingly exercised in ways which are wasteful and contrary to the true economic interests of the community. The pathetic proliferation of small shopkeepers with an infant mortality rate which would disgrace a cholera camp is an insult to the capacity to organise our material lives which power-production has placed within our grasp.

Lastly, on this point no one of us has yet the least idea what measures of control, in the sense of deliberate exercise of authority, would be necessary to secure a reasonable adherence to a plan *provided those exercising economic initiative were kept fully informed as to the consequences of their actions from the standpoint of the community*. It has been pointed out that law always lags behind public opinion. It cannot, indeed, long continue to be applied unless it is founded on a real consensus of popular feeling. Difficulties with the magnificent police force of this country over unreasonable licensing or motor-car legislation are merely an echo of the gangsterdom which has infected the United States as the direct consequence of prohibition. And the most striking single fact about our present situation is that we have no foundation for any decent public opinion about economic questions at all. Neither the great body of the community nor the captains of industry themselves have the least notion as to the effects of their individual actions in search of a livelihood or of a profit on the wealth and welfare of the community by and through which they live.

When we add to these considerations the fact already emphasised

that our whole notions of the shape and character of control and authority are evolving very rapidly under pressure of methods of life based on science, it is clear that no precise answer is possible to the question of the degree of individual freedom which can coexist with a planned economy. No one can tell, till the elements of a plan are there, how much outside pressure will be necessary to enforce it, how much adherence to its provisions will flow spontaneously from the mere fact of the plan itself, how much more will come unconsciously from a changed public opinion due to the facts which a plan will reveal, how much more again will come from pressure of one sort and another exercised by voluntary associations of various kinds, and what residue will be left needing the direct application of authoritative control. Nor have we any idea of what forms that control will take or through what channels it will be exercised. The one thing that is certain is that if we view this question through the prism of our existing political ideas and preconceptions we shall have a wholly distorted view of what is likely to happen. If we try to apply those preconceptions to the complexities of our economic life disaster is inevitable. Economic development is dynamic. Static conceptions in such surroundings are the detonator in the dynamite.

The first question, then, that those who are interested in planning must ask themselves is, What are the essential raw materials of a plan? Have we the necessary technique for drawing up any kind of a plan or for following the progress of its application from week to week and month to month? In answering such questions they have two sources of information. In the first place, Russia has, over nearly ten years, made a concerted national attempt at planning her economic life. Now the interesting point about that attempt is not the kind of point which is usually discussed in the press and in books about Russia. It leaves one stone-cold to learn that bread is dearer in Moscow than in Manchester or that unmarried mothers have a better time in the Ukraine than in Uxbridge. Because I am quite certain that Russia's economic situation was quite different to that in this country before she started planning, that it has grown more divergent since, and that, whatever happens here, the material and moral results of her experiments in her situation are and will remain wildly different from the material and moral results of any experiments we may make in our situation.

On the other hand, the technical aspects of her experiment are intensely interesting. But it is a subject on which little has been said in the translated literature which I have had the opportunity of examining. Whether planning is possible on a large scale depends on the answer to a number of statistical questions. In the first place, what are the figures which are essential to an intelligent direction of the complex economic life of a modern state? Or, in concrete terms, what were the figures which were considered essential by the Supreme Economic Council in Moscow? How were they obtained? For instance, what were the ultimate units from which the original material was drawn for various purposes? Were those units sufficiently reliable to make their answers valid? You will recollect the dry comment on two portentous volumes on agriculture once published by the Government of India. "Yes, they are a beautiful piece of statistical work. But the original information was obtained from

peasant cultivators. The *ryot* cannot count above five: his further units of measure are 'very many' and 'countless numbers.' Also, he is a congenital liar."

Perhaps more important still, at what speed were they obtained? For obviously any system of planning must be sensitive to change in ultimate public taste, if it is to operate in any country already sufficiently prosperous to permit of some choice in consumer demand. And the index of such sensitiveness will be the speed at which figures can be collated through the various channels and made effective in policy. It is an intensely practical question. And it requires an attitude towards statistical controls at present very lacking in this country. The second volume on the Census of Production of 1930 was published in July last. No doubt this kind of information is available in Russian official reports. But, unfortunately, they are a closed book to me.

Consideration of the Census of Production brings me to the second source of information about planning. Russia offers us the example of a large-scale experiment, a macrocosm of our problem as it were, for the Union of Socialist Soviet Republics does include an area considerably larger than Great Britain and a degree of economic unity among its constituent republics equalled here only in the perorations of the Beaverbrook press. On the other hand, we have at our very doors the microcosm of the problem, repeated quite a number of times.

Less than thirty years ago every factory in the world pursued its manufacturing activities in strict accord with the general principles which still govern our conduct of economic life at large. It operated from hand to mouth, following the vagaries of the price system, the higgling of the market, and the wishes of consumers. These wishes were represented by the opinion of the retailer, who talked to the salesman about it, who had a word with Mr. Smith, who told one of the partners, who said he would mention it next time he was at the factory.

Professor Beard, the American historian and sociologist, once invented the phrase "manifest destiny," as a kind of blanket and ironical excuse to cover the not infrequent occasions when United States bayonets, unsullied by any militarist or imperial ambitions, have infringed the first article of the Constitution in pursuit of strayed investments. Well, under the hand-to-mouth method of running business, "economic law" as it was called was a kind of "manifest destiny," a universal alibi to which all errors of judgment could be referred. There are to-day, however, a fair number of enterprises both in this country and elsewhere which have abandoned "manifest destiny" as an all-embracing principle. That is to say, they have tried to "plan"—to determine in advance how much they will sell and where, through whom and to whom, and at what price. Set in the environment of an unregulated price system, they have found the task sufficiently discouraging. But they have achieved a degree of conscious control which seems quite incredible, and, even highly unpleasant, to their colleagues who are still in the "manifest destiny" frame of mind. You can still walk into dozens of factories round this country which will tell you that they can't set sales quotas and they wouldn't be any good if they could, since they would necessarily be

guesswork. Or they will affirm that "planning may be all right in a mass-production shop, but in a job-order business like ours it is no use trying to plan."

It doesn't sound like sense. Surely careful forethought and deliberate arrangements should be more and not less necessary in a works, where the demand on different processes or classes of output is erratic and in some degree unpredictable? But then it isn't meant to be sense. It is plain prejudice. It is the counterpart of Aunt Jane murmuring, "I don't know what the new generation is coming to. I hardly dare to read a novel. I do think that to write about all that side of life is *so unnecessary*. It disturbs one." A leader of industry who has been accustomed for forty years to wave gently in the tides of trade like a sea-anemone does feel disturbed at the idea of planning.

But those factories which have been "planning" their sales and their production over a period of years have been gradually perfecting their methods. They have been finding out which figures are essential and which are not, how to collect and marshal them at the requisite speed, how to present them graphically and in other ways so as to throw up "exceptions" and deviations. In short, within the limitations of their economic environment they have been working out an extremely detailed and increasingly efficient technique for ascertaining facts, before and not after action, for translating facts into policy and for installing the kind of controls which will ensure that policy is continuously reflected in execution.

As was suggested above, the man who first thought about this kind of way of running business was F. W. Taylor. He was, as you know, the founder of the idea which is known as Scientific Management. He insisted constantly that Scientific Management is not, as is commonly supposed, any system or bunch of efficiency devices. It consists in a mental revolution on the part of both management and workers. The central point of that mental revolution is the substitution of facts as the basis of action for personal opinions or rule-of-thumb. He maintained that no factory could be said to have installed Scientific Management till that mental revolution had taken place.

From these considerations three consequences follow. If the planning of an individual factory demands a complex and evolved technique, the planning of a whole industry or of a national economy postulates a more complex and a more delicate technique which will demand a longer period for its successful development. If planning in a factory is a direct result of the kind of thinking which we call Scientific Management, if the successful application of Scientific Management postulates a mental revolution on the part of all concerned, then national planning demands a still wider and more deep-seated mental revolution. If, however, there are factories which have been planning their sales and production successfully, we have here the laboratory experiments so necessary in the evolution of new knowledge. One of the first tasks which faces any person who is genuinely interested in the idea of a planned economy is to acquire a firm grasp of the principles, practices, and problems of planning in the individual factory.

All of which is to say that Planning is not simply a bright idea or a bit of mechanism which can be applied to things as they are with no disturbance of existing practices and relationships. It is a funda-

mental concept, a possibility, much in the position to-day that flying occupied in men's thoughts before, a few decades ago, it began to enter the field of serious accomplishment. Man's mastery of the air will prove to be a small matter beside the winning of mastery over his own economic destiny. It is important and encouraging that the idea of the possibility should be taking shape. It is even more important that those who are interested should appreciate what a tremendous task of technical discovery and social adaption lies before them.

Let us consider for a moment a few of the figures we shall need and have not got.

It is a curious fact that in a so-called "capitalist" system one of the things we know least about is capital and its value. In the system of measurement which we call accountancy capital is usually represented by a debt owed by a given enterprise to those who have provided the various resources represented by its equipment, stocks, and so on. But the events of the last few years have given us a striking example of the elasticity in the values represented by such equipment and stocks. Twenty years ago the tendency of prudent accountancy was to endeavour to be extremely concrete, to place upon such resources a value, a measurement, which represented what they could be sold for in the open market. But there is an increasing realisation of the inadequacy of this test. The values inherent in capital cannot be fixed. The public is wiser than the accountants, though pitifully susceptible to mass suggestion. When it runs the market price of shares up and down fantastically in the bourses of the world it recognises in a half-blind way what is patent to every trader who thinks realistically. The values in capital are dependent on earning-power and earning-power is affected in infinitesimal proportions by the marketability or otherwise of the equipment of an undertaking.

Even assuming, however, that we accept our current systems of accounting as an adequate method of measurement, we have practically no general statistics enabling us to measure each separate item of capital expenditure in relation to the needs of the community as a whole. The decision as to whether it should spend less to-day in order to have more to-morrow is central to the economic life of any society. But decisions as to the accumulation and expenditure of capital are usually arrived at as the result of a series of compromises, bargains among groups of individuals, many of whom have little knowledge of the actual consequences of their decision.

I suggest that three changes are necessary before we can have any rational planning in this field. We must alter our attitude towards capital, learn to appreciate that, as economic life is dynamic, so capital is dynamic. It is not a fixed thing, but a shifting, fluid, changing thing, constantly altering in value as the earning power of the equipment in which it is invested alters. We must devise methods of measurement, of accounting, which will enable us to apprehend what is actually happening in relation to this dynamic substance. Too often our present methods shroud us in conventions which conceal the realities which we wish to apprehend. Whatever our methods of measurement, we must have frequent total figures giving us the real national position to which we can relate our individual actions.

Closely allied to this requirement is the question of technological change. We have lately learned to distinguish between depreciation, the wastage of equipment due to normal wear and tear, and obsolescence, the wastage due to the invention of superior equipment with a higher earning power factor. In a competitive economy there comes a moment when we must, willy-nilly, instal such superior equipment or run the risk that earning power will disappear altogether. But we know much less than we might about the obsolescence risk. We have little precise information as to its relation to employment, the ratio between equipment and human labour, or the speed with which it is changing in different industries. Our decisions on these issues are usually haphazard, based not on any precise calculation of technical changes and possibilities, but on general maxims as to prudent financing modified by considerations of the money available, the bargaining power of different groups of shareholders, and similar factors totally irrelevant to the economic welfare of the community as a whole.

As individual traders, we have little or no knowledge of the most important figure of all. The possibility of producing goods on a profit-earning basis depends, ultimately on the desire to consume goods and services of various kinds related to the effective demand for each type of goods and services. The desire or potential consumption may seem unimportant. But it is of vital interest to the producer, since on it depends the elasticity of his market and its sensibility to different price levels. And with modern methods of production the possibilities of reducing cost, provided a sufficient expansion of demand for the larger volume of products at the lower cost is assured, are almost infinite. Ford in the manufacturing and Woolworth in the distributive field have been teaching us a few elementary lessons in this aspect of the economics of power production.

But the great mass of manufacturers have no adequate information as to the total national income, how it is distributed, what is its allocation to investment, taxation, and current expenditure on various types of goods and services. They do not know what is the total national market for their product or what proportions of it reach the consumer through the different channels of distribution. They have no means of judging the relative effectiveness of their own methods of distribution as against those of their competitors, and often no effective system of arriving at distributive costs per line, per customer, or per salesman. We have had a Census of Production for twenty years or more: a Census of Distribution is still regarded as the crazy nightmare of a few lunatic enthusiasts like myself.

Mr. Roskill will give you greater details of our existing mechanisms and agencies to-morrow. All that I wish to indicate is that they fall a hundred miles short of anything which would render effective national planning feasible. There are countless sources of statistical information which would and should be of priceless value, even to the competitive industrialist, even if we never attempt to introduce planning, which are not exploited. There are many other statistics which are collected, but are never collated and published in a form inviting practical use.

The reason for this is two-fold. While it is now gradually awakening to the importance of statistical measurement, British business has been slow to appreciate its fundamental significance. On the other hand,

our official statisticians are scattered through dozens of departments. The material which they issue, while in many cases beautifully compiled and unimpeachably accurate, is almost always too late to be of great value for practical purposes. They are statisticians' statistics, which are something rather different from statistics on which business decisions can be based. Moreover, the figures issued are usually the by-products of public administration. They are the tables which happen to be needed for quite other purposes, carrying out legislation about unemployment or completing the electoral register or preventing foot and mouth disease. They are seldom, if ever, figures produced directly and expressly to aid in directing the economic life of the country.

Since the business world has not yet formulated its demand strongly or precisely, the officials of our admirable Civil Service are perhaps not to be blamed for this state of affairs. But they are very much to be blamed for one feature of the situation which hampers reform, even when business does begin to express its wishes. I refer to the continuation of separate statistical sections in every hole and corner of our governmental machine. We are one of the few civilised countries left in the world without a central statistical department serving all the others. There is no question that all the little bits and pieces scattered in the different departments are a disgraceful waste of public money. They multiply jobs. They stand in the way of an overdue mechanisation of much of the calculations. They prevent a synoptic view of much of the statistical material. They delay publication owing to uneven loads. But the tradition of self-defence characteristic of interdepartmental relations has stopped the carrying out of this obvious and necessary reform for over a decade.

In this matter of our public statistics I am not speaking only on my own authority. The report of the Macmillan Committee contained six weighty recommendations on the subject of our national statistics, and referred particularly to the co-ordination of the work of different departments. The report indicates, with reference to some of our most important economic indices, that "the most detailed and careful comparison of these various figures does not enable the investigator to make use of any industrial figures except for a few broad groups of industries. Doubtless these anomalies have grown up for reasons of administrative convenience. But for statistical and economic purposes much of their value is thus lost." The Committee concluded: "We attach very great importance to this part of our recommendations being carried into effect. For the completer information, which would thus be put at the disposal of those responsible for deciding policy, may prove to be an indispensable preliminary to their being able to work out practical methods of management for attaining the objectives of the monetary system."* This report was presented in June, 1931. It is now the autumn of 1934. But nothing very much appears to have been done about it.

It is difficult to do very much when the necessary statistical organisation is under the control of twenty different departments, each firmly jealous of its own competence. But, until there has been a much greater degree of centralisation, governmental figures must inevitably appear in a form and after a period which renders them largely inapplicable.

* *Macmillan Report*, pp. 184-5.

able to business needs. Yet, until they are more appropriate to practical requirements, business men will remain sceptical as to the possibility of using more precise methods for guiding policy. A resolute attempt to break this vicious circle appears to me to be the first practical task awaiting those who believe in planning.

This task is essentially a question of co-ordination. And that is the main thought that I wish to leave with you to-day. The idea of planning is easy: the practice of planning is difficult. It involves a long and complex technical development. Such a development must take place along two main lines—the improvement of knowledge and the betterment of structure. By knowledge I imply all the figures and facts necessary to obtain an accurate and synoptic picture of economic events in time to determine action. By structure I imply appropriate forms of organisation to gather and present those facts and to use them effectively.

Personally, I believe that this question of structure is even more important than the question of knowledge. That is to say, until men appreciate that organisation is itself a technical rather than a political problem—that the art of co-ordinating countless individual actions towards a common end is as much a matter for specialised and scientific study as is, for instance, medicine—we shall continue in our present distresses. Authority may change hands, democratic governments succeeding autocracies, Fascism or Communism replacing democracies. But they will each in their turn achieve little to set our economic confusion to a more ordered pattern, without that “mental revolution” which Taylor was the first to envisage. Because while they have the authority, they will lack the power—the power that can only come with knowledge, with scientific invention which is sociological as well as mechanical. We must “rend our hearts and not our garments” if we would achieve the ordered security, the conscious control of our material destiny, which many to-day dimly apprehend as possible.

The fact that there is that dream in many minds, that we are discussing planning here to-day, is a ground for hope—if not for the immediate future, at least for the ultimate victory of human intelligence and moral courage, over fear and superstition, darkness and disorder. But if that dream is to be realised it is essential that we should appreciate it in practical terms, that we should trace in our minds the stepping-stones from the dream to the business. And so as the second major task before those interested in planning, I would suggest this question of structure . . . the study of human organisation, not as a question of opinion or tradition or habit, but as a strictly technical issue, as technical as the engineering principles which underlie the building of a bridge.

I would turn their interest and their emotion, their sense of the human adventure, away from the time-scale which dominates the stock exchange or the daily press, to a longer and a more detailed vision. Planning, the large idea, is all very well. Great political movements are all very well. This or that dramatic scheme for reorganising this and that are all very well. But, generally speaking, they are but the dilation of one ignorance instead of another. The track of the future lies in obscure laboratories, in the work of isolated pioneers who are regarded by their contemporaries as lunatic, if no worse.

The substitution of conscious direction of our economic life for the pathetic trust in "manifest destiny" which has hitherto characterised our arrangements is a development which can only take place in the terms in which the problem is set to us. The social structure of peoples has been determined throughout all ages by the methods they have adopted to secure their daily bread. We are at the early beginnings of a machine age, based on the physical sciences. Our success in planning, in the intelligent direction of the forces which power production and the physical sciences have released, will develop just as fast as we are able to apply scientific discovery and scientific standards to the task of social control. It cannot develop faster.

DISCUSSION.

The Chair was taken by Mr. J. G. PEARCE, who mentioned Mr. Urwick's distinguished record as an organiser and his association with various movements for the co-operative consideration of greater industrial and economic efficiency. Mr. Urwick's paper formed an introduction to the papers by Mr. Lindsay and Mr. Roskill, and the conjunction of ASLIB and PEP seemed to be particularly happy since it appeared that PEP was doing in the sphere of politics what ASLIB originally intended to do for the arts and sciences generally. If PEP has its way, politics will become a branch of economics upon which there will be no two opinions, because on a given set of facts logical minds are likely to arrive at similar conclusions. Whatever might be their difference in scope and function, ASLIB and PEP are united in that they demand that every course of action shall be based on ascertaining the fullest relevant facts, and only on such facts can an adequate plan be formulated.

The discussion was opened by PROFESSOR B. W. HOLMAN, who instanced two cases of industrial planning carried out without the necessary complete information. The first concerned the production of platinum and resulted in a loss. The second, dealing with tin, made much money. These results were really due to luck, since we must have more scientific industrial economics before we could plan properly.

Mr. C. H. GRAY pointed out that the question of ownership was not introduced in the lecture. It was useless to plan without defining its position in new proposals.

Dr. V. COFMAN mentioned the excellent work in the study of planning that was being done by the Engineers' Study Group.

SIR RICHARD GREGORY mentioned the effect of scientific development on planning. The radio industry was an example. No planning of ten years ago could have foreseen the present developments. Bakelite was a further example of a developing industry which might ultimately seriously effect the glass industry. Ability was needed not only to plan but also to foresee the possible applications of creative ideas.

A fuller account of this discussion can be seen by members on application to the ASLIB office.

Public Efforts at Planning in Great Britain

By KENNETH LINDSAY, M.P.

While political parties continue to fight each other and rival theories and "isms" contend in the market place, a new structure of administration is quietly growing up in our midst. The nineteenth century built up a network of limited liability companies to conduct industry and also raised the status of public administration to a high degree of efficiency and excellence. In the early part of the twentieth century public administration was extended to correct some of the abuses of *laissez-faire*, to construct a network of social services and to institute what became known as "gas and water" socialism. The interval of the war provided a number of fresh controls because public interest was of over-riding importance. Business and government came closer together, a significant interchange of personnel took place and a number of interesting experiments were forced on us. Ordinary economic laws were suspended for five years, munition towns were created, public ownership of liquor was tried out in Carlisle, wool and wheat boards were set up, shipping was organised on an inter-allied basis, railways were commandeered, things were done on a vast scale irrespective of price, and a war-weary Britain sat down in 1919 little realising what had happened, still less what was in store.

Between 1919 and 1934, some fifteen years, Russia has instituted two five-year plans, Italy has been struggling slowly into the formation of a Corporate state, Germany has been through rationalisation and counter-revolution, Japan has built up formidable selling organisations of world-wide significance, while America has attempted to codify industry and subsidise agricultural marketing. Indeed, most countries have experimented in forms of control and high protection. At the same time mechanisation has made a swift spurt, urbanisation has been steadily gaining ground, migration has slowed up, and important changes in the birth-rate are recorded. Far-reaching schemes of control have also been applied internationally to many basic products, including tin, rubber, sugar, tea, and wheat.

In a word, the world of 1934 is not the same world as 1914. Great Britain, due partly to her geographical position and partly to her slow-moving evolutionary nature, has responded to these world events in a characteristic manner.

There is a permanent danger, when describing complicated events, of resorting to a phrase or an omnibus word. For my own part I use the word "planning" with a very simple definition. Planning consists in the organisation of knowledge and the effective application of that knowledge to current problems of economics, politics, and sociology. Mr. Oliver Roskill, with his unique experience in building up a new type of industrial information service will deal with the sources and supply of that knowledge. It is only relevant for me to point out that there has been a welcome increase in statistical and survey information, though there are still wide gaps in our armour, a serious absence of technique in passing on new information, and a noticeable time-lag

in utilising it. There are also real problems as to the respective spheres of Government and industry in the collection and dissemination of statistics and information.

The vastly increased complexity of practically every human activity is the change in circumstance which has rendered us conscious of a serious derangement in the hitherto relatively simple and sub-conscious process of planning. A second change is that for the first time in the history of the world there is now no commodity from the most simple to the most complex which cannot, at any rate in theory, be produced in quantities far exceeding the maximum visible demand. Thirdly, the objects of national policy are no longer confined within the comparatively narrow limits of a reasonable measure of domestic order and of such defences as may be found necessary against external aggression.

For these and other reasons some form of planning is to my mind an inevitable counterpart of the modern scientific world. But the whole point of planning is to preserve liberty, flexibility, and adaptability. Unless this first principle is grasped, it is idle to go further. For good or ill we live in a changing, dynamic world, we must therefore adapt or die. By the exercise of foresight, by the invention of new social devices and machinery, it is possible to minimise the pains of re-adjustment and progress with the minimum of waste and delay. In any case, modern standards of living and the social conscience compel us to plan. We stand or fall to-day according to the reasonable and orderly flexibility of our social system. Our task, then, is to reorganise the State in all its aspects so that it becomes a more efficient instrument for securing flexibility and adaptability than the State which confronted the apostles of *laissez-faire*.

No reduction of liberty can be justified unless it is necessary to the development of greater freedom for the majority of the citizen body. The State exists to make possible the good life, it can devise conditions to reduce insecurity, to prevent fraud and reduce errors of judgment. It may have to go further to-day than in the past and insist on forms of organisation to secure social security for the property of its citizens and to reduce the risk of social disaster. It plans to make organisers of industry, commerce, and finance responsible for their actions. It may even lay down a broad framework within which real self-government for industry, agriculture, or utilities is possible of attainment. To this extent we may be said to be moving from the negative to the positive State. It is the direction and object of interference that matters, not the mere fact of interference. Our planning therefore must be like that of the architect, structural in character: the citizens who live in the house must do the rest.

Needless to say, there has been a vast amount of first-rate planning in existence for many years whenever enterprise has steadily succeeded. This paper is, however, concerned with public efforts at planning. A public effort involves an Act of Parliament, followed by some form of charter, commission, or corporation. Land and natural resources such as coal, timber, and oil are obvious cases where Government has intervened; utilities such as gas, water, electricity, and transport, where the public concern is wider than private interests, are other cases where forms of planning have taken place; basic industries have been interfered with to a more or less degree; through

the agency of an enabling Act, popularly known as the Agricultural Marketing Act, successive commissions have prepared or are preparing planned marketing structures to cover two-thirds of agricultural production; the new invention of wireless has received a monopoly charter. These are all obvious and outstanding examples of public efforts at planning, with regard to industry and agriculture.

During the last thirty years an enormous complex of social services, dealing with education, housing, public health, and relief, has come into existence. The fact that these services have been subject to some central planning has given them a reasonably orderly structure, though the piecemeal attack on social problems and the political bias of successive governments has left us with some tangled skeins to unravel. But the impact of population changes, economic changes, and fresh scientific knowledge on housing, education, pensions, and local rates show clearly how necessary it is to try and anticipate maladjustments. So far schemes prepared under the Town and Country Planning Acts have barely touched the problem; economic interests come first, social amenities come a poor second. It is certain that a much greater degree of co-ordination, both in Whitehall and locally, will be necessary if a coherent plan for social services is to be constructed. Meanwhile it is relevant to point out that the new Public Assistance Board has nationalised public relief and created one more set of areas throughout the country. A few more Boards dealing with basic social services and the whole structure of local government will be undermined. The main requirements on the civic side are a codification and simplification of existing Acts, a sorting out of the relations between central and local government, a wider basis of scientific information through the use of social surveys, a clearer definition of principles, and a better use both of professional and voluntary personnel.

Needless to say, all these changes in industry and social services necessitate a revision of the Government organ itself. A whole crop of new ministries and extensions of old ones has grown up since the war to meet *ad hoc* new situations. Under the aegis of the Board of Trade a series of sub-departments now deals with tariffs, mines, overseas trade, and kindred questions. In order to cope with the Ottawa Conference a whole circus of Departments had to be translated across the Atlantic. It is true that an Economic Advisory Council has replaced the old Civil Research Council, but the time is probably ripe for a central planning organ within the Cabinet itself. With the growth of responsible bodies administering the main industries of the country, the task of government becomes more and more one of co-ordination and arbitration. Where Government itself has to act, however, it must be quickly sensitive to the needs of industry and this demands highly-efficient liaison between organised industry and government.

It is not enough for planning schemes to be well conceived; they must be popularly accepted and understood. The almost new science of public relations is thus called into action. No doubt purely departmental routine can be best done by departments concerned, but there are innumerable contacts between the official organisations and the citizen which call for skilled handling. The appointment of a special officer to deal with the public relations of the Post Office is a good example of the need and also of the value of such work. But a full-

scale and alert public relations service is an essential and specialised part of the modern machinery of Government.

At this point I am forced to ask myself what all this discussion of planning has to do with an ASLIB Conference.

In the course of our work in PEP and the issuing of the fortnightly Broadsheet we are continually faced with the absence of relevant statistics. The work of planning demands fresh classifications of knowledge at every stage, because planning is fundamentally an experiment in method. Your Association, presumably, exists to facilitate the access of bodies like PEP to a wide variety of specialist information. We in turn are building up a less specialised but factual and objective picture of modern society in as dynamic a form as is possible. The new political philosophy and science is slowly emerging from a wide and deep study of the modern state in action. That study has to take account of potato marketing boards, the ramifications of Imperial Chemical Industries, the health and sanity of the people, the influence of population changes on housing, the optimum ownership of land, and a thousand other questions. The biological approach, the study of the living organs in the State, demands a highly-planned information service. The effect of throwing responsibility on to organised bodies, as in the case of farmers, is that a fresh interest has been awakened in the farming community to their own problems. Farming papers to-day contain pages of statistics and new information. There is thus a most important link between the work of the special libraries and the preservation and development of our industrial and social institutions. It was said at the beginning of this paper that 1934 was a different world from 1914. Our planning, however, must attempt to visualise the world of 1954. The passage of the next twenty years with any degree of comfort must necessitate a wider and wider circulation of accurate, specialist, and related knowledge to the leaders of our democracy.

DISCUSSION.

The Chair was taken by MR. L. URWICK, who remarked that his views on industrial and economic planning had already been expressed in full in a previous paper.

The discussion was started by MR. B. M. HEADICAR, who said that although planning for ten or twenty years ahead is all to the good, what he felt most keenly was the failure to put into action planning already completed. We have plans already approved for the re-organisation of various industries. If only as much energy and celerity in carrying out these plans had existed as had been used by Lord Trenchard in re-organising the Police Force, we should not be in the present dismal position. Industries *must* organise, said Mr. Lindsay, but as they decline in many cases to do so, what is to make them, short of Government interference, which Mr. Lindsay dislikes?

MR. F. A. HOARE stated that the English would always prefer to "muddle" rather than to plan, but he criticised Mr. Lindsay's statement that "planning" outside this country had little relevance for Britain. The problems are essentially the same everywhere. He then went on to ask, "What is to happen to the plan when it is planned?" and spoke of the failure of the administrators and executives to carry out plans already prepared, with special reference to the Hadow Report.

MR. C. H. GRAY agreed with Mr. Hoare that just as we were no longer physically isolated from the outside world, so were we no longer capable of economic or, for that matter, of intellectual isolation. The very term "planning" owed its popularity to the Five Years' Plans in the U.S.S.R.

A fuller account of this discussion can be seen by members on application to the ASLIB office.

The Sources and Supply of Industrial Information with Reference to Planning.

By O. W. ROSKILL.

In this paper the industrial, economic, and statistical aspects of information only are to be discussed. Technical and financial information covers a separate field. Nevertheless, a knowledge of the general features of the technical and financial sides, necessary owing to implications on the economic side, is all too frequently neglected, particularly in the case of technical information.

The existing sources of industrial information may be divided under three heads: (1) Information supplied by the State, (2) Information supplied by Industries, (3) Information supplied by Private Enterprise.

For a summarised list of information supplied by the State the *Guide to Official Statistics* and the *Statistical Abstract*, publications which are insufficiently known and used, should be consulted. It should be noted, however, that a mass of information is available in Government Departments which it is outside their scope to publish. Apart from information, the publication of which would be prejudicial to the supplier, there is also an enormous amount which it is not the business of any particular person to collect in a readily available form.

The following are examples of available State information:

THE CENSUS OF PRODUCTION.

Special Reports of Commissions, etc.

e.g.: Balfour Reports.

Samuel Commission (coal).

Commissions under Agricultural Marketing Acts.

Economic Reports under the aegis of the Department of Scientific and Industrial Research.

e.g.: Fuel Research Station on Low Temperature Carbonisation.

Building Research Station on Brick Industry.

Ministry of Labour.

e.g.: Unemployment Returns.

Ascertained Wage Rates in different Industries.

Ministry of Health.

e.g.: Housing Statistics—important to contracting and building materials industries.

Ministry of Mines.

e.g.: Coal Output by Districts and ascertained Costs.

Board of Trade.

e.g.: Trade and Navigation Accounts.

Special Departmental Activities; *e.g.*, Gas Undertakings' Statistics, including Coke and By-products Output; Alkali Inspectors' Reports, including Sulphuric Acid and Fertilizers Output.

Department of Overseas Trade.

e.g.: Reports by Commercial Attaches, etc., organised by countries. (Compare these with the U.S. Department of Commerce organised by products.)

Information supplied by Industries may be divided into that supplied by Trade Associations, Sales Development Organisations, Individual Firms, and the Banks.

The information held by Trade Associations is, as a rule, only available to the members of the collecting organisations themselves, although in a few cases it is also available to the public. If, as is often the case, the Association is mainly concerned with price-fixing, the information collected usually centres round this. Wider activities are hampered by lack of cash and by the unwillingness of members to divulge information. The following are outstanding examples of Trade Associations, part at least of whose information is accessible to the public:

National Federation of Iron and Steel Manufacturers.

Cotton Trade Statistical Bureau.

British Electrical and Allied Manufacturers' Association.

Incorporated Association of Retail Distributors.

Society of Motor Manufacturers and Traders.

The rapid growth in the number of central organisations for Sales Development has been noteworthy in recent years. There is considerable danger that the work done by them may not be sufficiently objective, and it is important from their own point of view that consumer confidence should be built up by ensuring the accuracy of the information supplied. Examples of such organisations are:

British Commercial Gas Association.

Electrical Development Association.

Copper Development Association.

International Tin Research and Development Council.

Coal Utilisation Council.

A certain number of individual firms also supply non-confidential information—usually as a form of advertisement—such as the non-ferrous metals statistics of the British Metal Corporation and Farrie's sugar data.

In England the information services of the Banks are not, as a rule, of much direct use to industry. The "Big Five" issue monthly reviews which usually present information in the form of "market reports," divided geographically. Apart from financial and general economic information, these are of little use, except perhaps to merchants, and they do not present either a very reliable or a complete guide to the industrial position.

The recently-inaugurated "Statistical Summary" of the Bank of England is of much greater value. In this an important change of technique should be noted; although some key figures are given regularly, special subjects are chosen for detailed statistical treatment each month.

While the Joint Stock Banks consciously maintain their separation from industry as a matter of policy, Private Banks in general neither collect or use industrial information to any great extent. This has

serious repercussions with regard, for instance, to new issues and even under the bare incentive of the profit motive, many of the issues characteristic of the 1928-29 boom, such as safety glass and artificial silk, would never have been made if fuller information had been available. There are a few exceptions and a few issuing houses who prepare special reports such as Lazard Bros.' surveys of the Dominions.

Examples of the better service given by banks in foreign countries are the *Mitsubishi Monthly Bulletin*, the *Swiss Bank Corporation Review*, and the *Rotterdamsche Bankvereeniging Review*.

One danger of statistics as supplied by an industry for public use is that they may be suppressed when they throw unfavourable light on the position of the industry. For example, American copper producers suppressed production, stocks, and consumption figures at the beginning of the depression.

Information supplied both by the State or by industries is subject to certain shortcomings: (1) It may be out of date and of historical interest only; this applies particularly to information supplied by the State. (2) An insufficient use may be made of estimates, for the professional statistician is too often divorced from practical affairs and is therefore inclined to sacrifice too much to academic accuracy. (3) There may be a lack of correlation between different subjects since it is seldom recognised that there is a definite technique for the collection and presentation of information, making estimates, etc. For instance, to estimate the consumption of copper it is necessary to collect information from the electrical, motor vehicles, shipbuilding, and other industries.

The third source of information is that created by private enterprise, which considers information as a marketable commodity. Coming under this head are advertising agents, market research experts, *Lloyds Register of Shipping* (an exceptional organisation), and the private organisations in Germany, the U.S.A. (such as Arthur D. Little, Inc., of Cambridge, Mass.), and a few in this country. The American organisation has developed the nucleus of an industrial-economic information service linked with technical consultant and research services in all the chief fields.

Such, then, are the sources of industrial information. We come now to a consideration of the problems of the supply of information. One of these is the line of demarcation between academic research and commercial supply of industrial information. Examples of the former are the surveys of the depressed areas which have been conducted by universities under the aegis of the Board of Trade, but there are other problems on which information is urgently required, but for which nobody will pay, e.g., the structure of trade associations, the technique of price-fixing, "loyalty rebates," and the control of raw material supplies. One disadvantage of the use of university research departments is the lack of technical and factual knowledge and industrial background on the part of university-trained economists. There is serious need here for a technique of co-ordination with industry.

Another factor affecting the supply of industrial information may be classed under the heading of the Secrecy Complex. This may arise from the English hate of filling in returns or it may have its

origin in the consciousness of using antiquated methods and the desire to conceal the fact. This national characteristic may be contrasted with the American's love of "telling the world"—and showing them—that he's got the biggest, latest, and best plant or sales organisation in the industry. There is also frequently information which must remain confidential as regards individual firms—sales figures, turnover, etc.—but which is of great value when put into aggregate figures. A technique for the collection of information must be developed which will surmount the fear of leakages. This has been done by the Incorporated Association of Retail Distributors, whose members supply data for obtaining retail sales indices under code numbers, the system being worked in conjunction with the Bank of England Statistical Department and the London School of Economics. Chartered accountants are also sometimes used for the purpose, but often suffer from lack of inside knowledge of the industry.

When we consider the supply of information, we have also to consider its use and misuse. If statistics can prove anything, it is because of a lack of critical instinct on the part of the user. There is need for a wider knowledge of how to use statistics as well as a need for more statistics. Examples of their misuse may be culled from the daily press. A company may increase its sales "by 180 per cent. compared with the previous year," but may still be making a loss.

The collection and supply of information may be approached on the Baconian method as a contribution to knowledge, deductions following only from facts. This is the scientific and objective method. On the other hand, information may be collected merely to prove a contention or to support a policy. "Unfavourable" facts will then be discarded or suppressed. This method may be very necessary at times, but it must be recognised for what it is and provision must be made for presenting the opposite point of view. Examples of such, always wasteful, methods are sales propaganda for the use of two competing materials—e.g., coal and oil.

While it must be admitted that under existing conditions the second method is often useful, sound planning must be based on the first. An example of the dangerous effect of lack of information and statistics in planning is shown in the experience of the Pigs Marketing Board.

Statistics should be so compiled and framed that they do in fact indicate what they are designed to. For this reason the use of the four-weekly period instead of the month is to be advocated, and the effect of holidays, such as Easter, should be clearly shown. The neglect of seasonal trends and the comparison of one quarter with the previous quarter instead of, for instance, with the corresponding quarter in the previous year may be very misleading, but is none the less common. For example, the coal industry usually makes an overall operating profit in the winter quarters and a loss in the summer quarters and consequently statistics are often misinterpreted. There are, in fact, frequent misunderstandings of approach between statisticians and industry. The latter often does not know how to use the former; the former do not put their material in a form useful to the latter.

Another fruitful source of trouble is the existing confusion of units such as, for instance, the use of square yards, linear yards, lbs., cwts., pieces, etc., in the cotton industry.

Having said so much concerning the misuse of statistics in industry, it is only fair to turn to their practical use. The following are instances of the advantages of statistical information :

Engineering Industry : Costs ascertained to show unions that wage demands could not be borne by the industry.

Iron and Steel Industry : Use of production, trade, and cost figures to support demands for protection.

Distribution Industry : Comparison of sales in one store of one group of products with the general average.

An example of the successful application of information to planning is shown in the grid contract, which was accurately estimated as regards costs and time. The Milk Marketing Board is now attempting to make farmers statistically minded and to convince them of the use of statistics through *The Home Farmer*, a publication distributed free to all registered producers and containing a great deal of statistical and accounting information.

DISCUSSION.

The Chair was taken by Mr. L. URWICK. PROFESSOR R. S. HUTTON opened the discussion and referred to the functions and aims of ASLIB and the services of the institutions represented by its members in relation to the practical development of planning. The close co-operation of those concerned with this movement and ASLIB was desirable. ASLIB could possibly make effective representations with regard to the improvement of official statistics.

MR. J. A. REECE (Gas Light and Coke Company) said that Mr. Roskill complained that many business men will not use the results produced by statisticians. The latter are not therefore in a position to know what it is worth while to compile, and Government Departmental accountants and cost accountants cannot be blamed for failing to produce satisfactory material. Who, then, should be responsible for seeing that business benefits from the use of statistics ?

MR. S. K. JONES remarked on the innovation by which an abstract of the present paper had been supplied to delegates. He suggested that the ASLIB Council should consider the advisability of providing abstracts in the future or of prefixing them to the papers. He then went on to point out that the difference between the British and the Russian plans was that the Russians decided on their goal and then made straight for it, the British started from the present position.

MISS EVELYN ATKINSON (J. Walter Thompson Company, Ltd.), referring to the speaker's remarks on the difficulty of using and collecting adequate Government information of a statistical nature, stated that the business of advertising is fundamentally to increase consumption. Advertising can be diffusive or directed forcefully on a particular market, but to find the market most likely to use the product concerned very definite research is essential. Government statistics are helpful, but not sufficiently published or analysed in this country, and until we are able to get a clear conception of the different states of the market from statistical research, much merchandising and advertising effort will still be wasted.

Publicity for Great Britain: Problem of the Supply of Information.

BY L. A. DE L. MEREDITH, C.M.G., O.B.E., B.A.

The Travel and Industrial Development Association is something new in our history. It is an attempt to organise on a national scale a co-operative campaign of publicity abroad on behalf of our country, its attractions as a place to visit, its products, and the great contributions it has made to the progress and welfare of mankind. It is not necessary, I think, to a gathering of this kind to go in detail into the importance of this work. On the tourist side the number of visitors who come to the country each year from the Dominions and foreign countries is over half a million, and their expenditure was estimated by Professor Ogilvie in his book *The Tourist Movement* at £22,000,000 odd. I am hopeful that this figure will be increased this year.

As to industrial and general publicity, Sir Stephen Tallents in his pamphlet *The Projection of England*, published two or three years ago, pointed out that in these days, when salesmanship is admitted as a cardinal factor in trade, we must use every means we can discover to show our customers that we are still well fitted to supply them; and to win their custom we must first win their minds. Sir Stephen is now, I am glad to say, a member of our Executive Committee.

This, then, is our task: to spread throughout the world the knowledge of British industrial quality—the impression of British adaptability and modernity no less than of British craftsmanship and thoroughness; while the United Kingdom must be seen as one of the most beautiful, historic, and friendly of the world's countries.

I would like to say a word about the Association itself before touching on the methods we adopt and hope to adopt.

The Association is a non-trading organisation. It was started five years ago by the Rt. Hon. Douglas Hacking, now Financial Secretary to the War Office, when he was Secretary to the Department of Overseas Trade. Lord Derby has been our keen and active President since the beginning and for the last three years the Prince of Wales has been Patron. The Association has Government support in the form of a small grant originally of £5,000, reduced in 1931 when other cuts were made to £4,000, and of the active co-operation of the diplomatic and trade representatives of the Crown in all parts of the world. Our finances are provided by the subscriptions of members of the Association, which vary from the £4,000 from the Government, through the substantial amounts subscribed by the British railway companies and shipping companies, larger local authorities, and development councils, to the modest two guineas subscribed by a small hotel or a private individual. In the last financial year our revenue was £26,000, a substantial sum but little enough for the task before us.

Our task, then, is publicity. This task has two sides: first, the advertisement in its literal sense of turning the mind of the reader, hearer, or observer to Great Britain, and secondly, without which

the first is useless, the provision of adequate information for those who have been interested.

I could talk for a long time on the methods of advertisement we use, but I do not propose to weary you by describing them in detail. We try to use every available opportunity—and there are many such opportunities for those on the watch for them, while on occasion opportunities can be created—to turn the mind of the world towards this country and for projecting into the consciousness of the world an interesting picture of this country. For instance, we work in close and friendly contact with the overseas press and news agencies. We publish for their use two monthly bulletins, *Coming Events* and *Industrial Britain*. We encourage the resident correspondents of the overseas press and many special correspondents who come over here from time to time, to come and see us, and we take pains to ensure that they are able to get accurate information on the subject in which they are interested. We have also arranged press visits to various parts of the country to enable them to see for themselves both what I may term the beauty-spots of the country and the industrial areas. The last two trips organised this summer were to the Mersey Tunnel and to the Lake District. Further, we maintain at our offices at home and abroad a library of photographs of places of beauty and interest in this country which is at the disposal of the foreign press for free reproduction and is largely and increasingly drawn upon. So far, space advertising on any considerable scale has been beyond our means, but we have organised small co-operative schemes.

Another important medium is the wireless. We have arranged for a series of weekly talks to be given from several hundred stations in North America. These talks, edited and where necessary translated, are available for other parts of the world and many of them have been given in Australia, South Africa, and South America as well as on the Continent of Europe. The subjects covered vary from "The Gardens of England" and a series on "Life and Work in Britain," to "Music in England To-day"; there have been over 120 in all. I shall be delighted to give a list of the talks to anyone interested. Another important side to this part of our work is the supply to the B.B.C. for the news bulletins of the Empire Station, whose range is world-wide, news items of industrial developments supplied by the Association's industrial members. In yet another direction, we have collaborated happily and practically with that enterprising body the Columbia Corporation of America over relays from here of such events as the service and curfew at Ripon Cathedral on Whit-Sunday, and recently the Welsh National Eisteddfod.

We organise stands at the more important exhibitions overseas and in the last twelve months have shown at Toronto, Paris, Lyons, Tel-Aviv, Barcelona, and Geneva. Smaller exhibitions of photographs and posters are constantly arranged in all parts of the world. I am now working on our plans for the big Brussels Exhibition next year.

We have our film section, which has produced a limited number of films, including "London," "Lancashire at Work," and "Edinburgh," while we have been working this summer on a new Scottish film. These films form the nucleus of a film library which will be available for display by colleges, schools, societies, and are frequently also used to fill up programmes at cinemas.

The other chief activity is the production and distribution of pamphlets and booklets. The productions include the *Calendar of Events* in four languages ; an illustrated booklet on the British Isles in four languages ; *London*, so far, for financial reasons, only in French ; and a number of smaller folders.

We are thus trying to influence the inhabitants of the world through the eye and through the ear, and if we can find a way of influencing them through their olfactory organs we shall do so !

The preparation of material for publicity by whatever method requires care since, to be effective, the appeal must be the right one. In North America, for instance, they are interested in our historic past as well as in our sports, and in our industrial achievements. In South America, on the other hand, it is necessary that the progress and modernity of life, industrial and social, should be portrayed. Again, it would be foolishness to send to the Low Countries posters or photographs of windmills, while it is not much use appealing to the Swedes or the Swiss to come and see our mountains as such.

Having decided on the appeal, there comes the question of the language. This is a matter of difficulty. In general, this must be in the language of the country, but if you are going to write in a foreign language it must be in a foreign language and not in translated English. I feel sure that the experience of the ASLIB would support me in this. Of course, it is impossible always to go to the expense of translating all your literature into a foreign language, especially for a small country. In such a case if enquiry is made first it will often be found that English is just as useful, sometimes even more so, and it is our experience that English booklets are eagerly studied as a free lesson in English. You will, of course, if you do this, be a target for the superficial critic who, on finding, say, a Travel Association booklet in Sweden, will write a patronising letter to the public press to say that the Association does not seem to be aware that in Sweden they talk Swedish and not English. We all have to put up with that kind of person.

I have dealt so far with the attempt to turn the minds of people towards this country, but to do this it is not enough merely to adjure them to "come to Britain" or that "British goods are best," in fact, I have evidence that this last slogan did harm when used as a postmark to foreign countries. We have to show why they should come or why British goods are best, and to do this we have to give them information, on the one hand of what is interesting and attractive here, and on the other of the latest developments of industry. All our publicity literature, etc., is prepared to this end. The *Calendar of Events*, which is published in November of each year, gives the dates of all the important and interesting fixtures for the following year. Our press activities in so far as they relate to the overseas correspondents to this country, are directed to making it easier for them to report events, activities, tendencies in this country ; in a word, we make it easier for them to do what is their work. Similarly with broadcasting, film work, etc. : it is all informative as well as provocative.

But we must go further than this and ensure that when we have interested people abroad, they can easily find out all they want to

know, either about means of travel to this country, cost of a visit, or whether and where they can obtain British productions. This is a task of great complexity. As regards industrial information, the ground is covered to a considerable extent by various organisations, as you would expect in a great commercial nation. There is in the first place the Government, who maintain under the Department of Overseas Trade the important services of commercial secretaries, trade commissioners, and consuls whose task is to further British trade. There are also British chambers of commerce in a number of foreign countries; there are in all parts of the world representatives of British industrial, commercial, and financial interests. With these the Travel Association works in close contact. They give us a great deal of assistance and I am glad to think that we have been able to help them on many occasions. I am hopeful that in time each office or representative of British firms abroad will regard itself as an information office for Great Britain: a great deal more can be done towards passing on enquiries or directing them into the proper channels, instead of returning a blank negative or a "not interested." The Association would be available for any that defeated local resources. It was on the travel side of our work that we found the greatest hiatus as regards supply of information. There are in every country travel agents who make their living by commission on tickets for steamship, railway, and hotel accommodation. We got into touch with numbers of these, direct or through our representatives, and they all told the same story: that they had great difficulty in obtaining publicity literature and information regarding this country, and in particular that they wanted information regarding British hotels. We are making it our business to see that they are supplied with the literature they want, and to meet their demand for hotel information we have produced an Hotel Guide, giving in the simplest form the information required, with explanatory notes in five languages. This guide has a circulation of 100,000.

This, then, is our problem: to turn the minds of people towards this country and to ensure that they can find out what they want to know. It is an ambitious task, but it is cheering to find that all over the world there are people of good will to this country, some of foreign nationality, who are anxious to help. It is a question of organisation and money. I do not intend to appeal for money to-day, but I should not be human if I did not ask the representative of any business firm interested in our export trade to consider the possibility of setting aside a small proportion, as little as half of one per cent. if they wish, of their advertising appropriation, to assist us in this national advertising campaign.

DISCUSSION.

The Chair was taken by PROFESSOR KENNETH MASON, of the University of Oxford School of Geography.

Contributors to the discussion were MISS M. GILBERT, DR. W. BONSER, DR. G. F. HERBERT SMITH, PROFESSOR R. S. HUTTON, MR. W. C. DALGOUTTE, and DR. S. MONCKTON COPEMAN. Amongst the points raised were the present excessive prices of many English hotels and boarding-houses and the lack of an informative list of hotels such as is provided for intending travellers by several countries. DR. MONCKTON COPEMAN referred to the publicity work for British

spas and health resorts which was being undertaken by the British Health Resorts Association and mentioned that in certain Harrogate hotels, for instance, it was now possible to follow a prescribed dietary.

MR. W. DALGOUTTE, of the British Library of Information in New York, spoke of the relations of his library with the New York office of the Travel and Industrial Development Association of Great Britain and Ireland. The British Library of Information is maintained in New York by the Government as part of its official establishment in the U.S.A. It works closely with the Embassy and the various Consulates in performing its special function of supplying exact information on Great Britain and British affairs. The people who use it are chiefly business men, scientists of all kinds, publicists, newspapers, libraries, and scholars from the schoolboy to the university professor. A large proportion of the requests come from school children and to ignore their letters might result in wasted opportunities of "selling" Great Britain. Fortunately, in replying to their enquiries the publicity material of the Travel and Industrial Development Association has proved invaluable and it is hoped that its use will result in encouraging actual travel in the future.

The publicity material of the Travel and Industrial Development Association is excellent and much of it might be distributed with advantage in this country. Excellent though it is, however, it is prepared for a specific purpose and something more is wanted to meet the needs of those who seek a conspectus of British affairs of a more serious nature. Unlike most of the other Dominions, the United Kingdom has no official Year-book. We find that the Government publishes an annual report on the Army, but none on the Navy; we can read of the activities of the Road Fund, but not of the Ministry of Transport; similarly, we find details of the working of the Clearing Office for Enemy Debts and the Bankruptcy and Companies divisions of the Board of Trade, but not of the Board as a whole. There is no complete series of reports covering the work of our great and little departments and, while there is doubtless a demand for such reports here, the need abroad among foreigners who do not understand our British parliamentary and administrative machinery is infinitely greater. Mr. Dalgoutte concluded by saying that he hoped that the Travel and Industrial Association might prepare a short general account of Great Britain, its geography, and the activities of its people, which would provide the foreigner with trustworthy information of a basic nature about Britain and the British.

A fuller account of Mr. Dalgoutte's contribution can be seen by members on application to the ASLIB office.

Final Session.

At the Final Session of the Conference the chair was taken by Professor R. S. Hutton. The delegates passed votes of thanks to the Principal and Fellows of Somerville College for their hospitality in permitting the Conference to be held at the College. Votes of thanks were also passed to the authors of papers, the chairmen and stewards of meetings, the Bursar and staff of Somerville College, and to the staff of ASLIB.

The proceedings of the Conference then ended.

Report of the Ninth Annual General Meeting.

The Ninth Annual General Meeting of members and associate members was held at 5 p.m. on Saturday, September 22nd, 1934, at Somerville College, Oxford.

Present : Fifty members and associate members were present.

Chairman : Professor R. S. Hutton (Chairman of the Council of the Association) acted as chairman of the meeting.

ITEM I. Minutes of Last Annual General Meeting.

The minutes of the Eighth Meeting, having been printed and circulated with the last Conference Report, were taken as read. It was agreed that they should be confirmed and signed as correct by the Chairman.

ITEM II. Audited Statement of Accounts for 1933-34.

The Audited Statement of Accounts was presented by MR. A. F. RIDLEY. This had already been circulated and on the motion of PROFESSOR R. S. HUTTON, seconded by DR. W. BONSER, it was accepted.

ITEM III. Appointment of Auditors.

On the motion of MR. H. L. JACKSON, and seconded by DR. H. MOORE, it was unanimously resolved that Messrs. West and Drake be re-appointed auditors to the Association.

ITEM IV. Election of Council.

The CHAIRMAN announced that the list of Council and Officers, nominations and resignations, had been circulated. The following had resigned their membership of the Council : Mr. A. Brammer, Mr. Humphrey Milford, and Mr. L. Honeyburn, and the following had accepted nomination : Professor B. W. Holman and Mr. C. A. Spencer.

On the proposal of MR. N. D. PAGDEN, the following elections and re-elections as members of the Council were unanimously approved : Mr. J. J. Eaton, Mr. Theodore Besterman, Mr. B. M. Headicar, Professor B. W. Holman, Miss D. W. Hughes, Colonel L. Newcombe, and Mr. C. A. Spencer.

The full list of members of the Council will be found on page 4.

ITEM V. Election of President.

It was unanimously agreed that Sir Richard Gregory, Bart., F.R.S., should be elected as President of the Association.

ITEM VI. Election of Honorary Treasurer and Honorary Secretary.

It was unanimously agreed that Mr. A. F. Ridley (Honorary

Treasurer) and Mr. F. A. Hoare (Honorary Secretary) should be re-elected.

ITEM VII. Report of Year's Work of ASLIB.

PROFESSOR R. S. HUTTON then presented the Report of the Year's Work of the Association (see page 12) and proposed its acceptance. Mr. J. G. PEARCE seconded the proposal, which was adopted.

In connection with the report on the inauguration of a campaign for increased membership, the following points were put forward: ALDERMAN C. SQUIRE suggested that municipal bodies should be approached with regard to membership of ASLIB, and Miss E. W. PARKER suggested that a conference held in London might also be useful as a means of recruiting members.

ITEM VIII. Reports from Kindred Organisations.

A Report of the National Central Library (see page 100) was presented by COLONEL L. NEWCOMBE, and Reports from Kindred Organisations of interest to members of ASLIB (see page 101) were summarised by the CHAIRMAN.

ITEM IX. Other Business.

The following resolution, arising from discussions which took place at an earlier session, was proposed by DR. E. E. LOWE and seconded by MR. J. MCADAM and was carried unanimously:

That the Council of ASLIB be asked to consider, if possible in co-operation with the Library Association, the issue of a regular periodical review of newly-published works on scientific and technical subjects and to report on possible schemes.

In connection with the above resolution, SIR RICHARD GREGORY drew attention to three aspects of the suggested review which should be considered—i.e. (1) a list of books for general readers; (2) a list for reference libraries; (3) a list of the best books for students.

The following resolution, proposed by PROFESSOR R. S. HUTTON and seconded by DR. W. BONSER, was also adopted:

That the Council be asked to approach the Government Departments concerned with the Patent Office and Science and British Museum (Natural History) Libraries to express the great appreciation of members of ASLIB in the facilities afforded by these valuable national institutions and to urge that increased support be given to these to enable more rapid progress and increased service to be provided.

MISS E. W. PARKER strongly supported the above motion and emphasised the unique value of the Patent Office Library to special librarians working in the London area.

ASSOCIATION OF SPECIAL LIBRARIES AND INFORMATION BUREAUX.

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 30TH JUNE, 1934.

DR.	EXPENDITURE.			INCOME.			Cr.		
	£	s.	d.	£	s.	d.	£	s.	d.
To GENERAL EXPENDITURE—				By GENERAL RECEIPTS—					
Salaries	399	4	4	Membership Subscriptions	596	9	7		
Rent, Light, and Telephone	68	19	4	Bank Interest	18	1			
Insurance	2	14	2						
Printing, Stationery, Postage, and Office Expenses	113	10	5	Sales of Directory			597	7	8
Reference Books	1	8	0	„ „ Professor Myres' Address			14	14	0
Travelling Expenses		3	7	„ „ Sir John Russell's Address			3	9	2
Subscriptions		8	6				5	14	2
Press Cuttings	2	2	0	CONFERENCE RECEIPTS—					
Audit Fee	5	5	0	Fees and other Receipts	295	6	8		
Income Tax	2	5	0	Sale of Reports	21	1	2		
Depreciation of Furniture and Fittings	4	0	9	Advertisements in Report	15	5	6		
							331	13	4
				Receipts <i>re</i> Translators' Panel			8	8	3
Printing of Sir John Russell's Address	600	1	1						
COST OF 1933 CONFERENCE—									
Conference Expenses	220	4	8						
Printing of Conference Report	130	0	0						
	350	4	8						
Expenses <i>re</i> Translators' Panel	1	8	9						
	956	14	6						
Balance, being excess of Income over Expenditure for the year, carried to Balance Sheet	4	12	1						
	£961	6	7				£961	6	7

BALANCE SHEET - 30TH JUNE, 1934

[illegible]

We have audited the above Balance Sheet and have obtained all the information and explanations we have required. In our opinion such Balance Sheet is properly drawn up so as to exhibit a true and correct view of the Association's affairs according to the best of our information and the explanations given to us and as shown by the books of the Association.

26th July, 1934

8, New Court, Lincoln's Inn, London, W.C.2
and at Reading.

(Signed) WEST AND DRAKE, Chartered Accountants.
(Signed) ARTHUR F. RIDLEY, Hon. Treasurer.
(Signed) R. S. HUTTON, Chairman.

International Documentation.

The Work of The International Institute of Intellectual Co-operation.

Dr. Margarete Rothbarth, of the International Institute of Intellectual Co-operation in Paris, has submitted the following :

The International Institute of Intellectual Co-operation is preparing the publication of an *International Guide to Sources of Documentary Information*. The object of the following article is to describe the Institute's previous activity in the field of documentation and to indicate its programme of future work.

In a sense it may be said that the whole of the Institute's work is of a documentary character. Its files contain a large and varied collection of documents on educational, scientific, literary, and artistic questions, most of which are accessible to the general public through the Institute's publications. But apart from this general work, the Institute also carries out documentary functions of a more specific character. In the field of public education, for example, the Institute has been instrumental in bringing about the formation of national educational information centres, and it has recently published a *Handbook of National Centres of Educational Information*. It has placed at the disposal of libraries an *Index Bibliographicus* and a *Guide to National Information Services, Loan Systems, and International Exchanges*. Special mention may also be made of *Centres of Reference for International Affairs*, a handbook compiled by the Institute on behalf of the Permanent Conference on International Studies.

In view of the ever-increasing number of requests which reach the International Organisation for Intellectual Co-operation, some of them advocating the publication of new documentary periodicals and others recommending that the activities of the numerous existing reference centres should be co-ordinated and linked up, the International Committee on Intellectual Co-operation decided in 1932 that the Institute should undertake an enquiry with the object of preparing a practical working plan.

Accordingly, in 1933, the International Institute of Intellectual Co-operation submitted to the International Committee the results of an enquiry which had been conducted chiefly by consulting the principal national centres of documentation already in existence and by inviting them to communicate their opinions and suggestions.

Among the memoranda contained in the Institute's report, reference may be made to one submitted by M. JEAN GERARD, Secretary-General of the International Union of Chemistry and President of the Union française des Organismes de Documentation. M. GERARD proposed, on the one hand, the co-ordination on a national basis of the various documentation centres established in each country and concerned with the sciences, literature, economics, etc., and, on the other hand, the promotion of systematic contact between the National Unions so constituted. Another memorandum, submitted by the Secretary of the International Biological Union, Professor PAUL LEDOUX, of Brussels, envisaged a form of "vertical" co-ordination, which would be international from the very outset and which would bring into contact the documentation centres specialising in each department of knowledge, on the model of the scientific unions already established.

In the autumn of 1933, a Committee of Experts met at the International Institute of Intellectual Co-operation, in order to discuss the preparation of an *International Guide to Sources of Documentary Information*. The Guide should indicate clearly what is to be understood by documentation. This should be done by summarising the main objects of documentation and by describing the machinery with which it should be equipped if it is to be properly organised. The Guide would then serve to facilitate, in a striking way, the building up of a world network of documentation.

The discussion on this report was based on a memorandum submitted by M. JEAN GERARD. It was decided that the Guide should not be a mere repertory of international or national information centres. It should be a "guide" in the full sense of the term and should contain, therefore, a series of explanatory chapters

defining what is meant by documentation, and describing the difficulties which have to be faced and the mechanism which is needed for proper organisation. It should also deal with documentation as such, with its special technique, and with its function in the organisation of intellectual work.

The plan is, broadly, as follows: The Guide would begin with four chapters on documentary terminology, on the international organisation of documentation, on the new science of documentation itself, and an instruction in documentary technique. These chapters would be written by experts.

They would be followed by two chapters on existing organisation, the first dealing with National Unions of Documentary Information, i.e., existing organisations grouping all information centres in each country; and the second with the international centres and other important associations, institutions, and unions, which are either solely or mainly concerned with documentation, or which, in addition to their normal work, regard it as one of their secondary functions to give information on their results.

Finally, the Guide would formulate principles for the preparation and editing of repertories by information centres, giving model questionnaires and notes.

For this final section, it will be necessary, of course, to seek the collaboration of persons of established authority in the various branches of the pure and applied sciences and in the editing of important reviews or repertories issuing analytical bibliographical notes. The Institute proposes to consult these authorities by letter and, if necessary, to summon a small committee of experts.

The two chapters on national unions and international centres, on the other hand, cannot be written until extensive enquiries have been made in interested circles. These enquiries have been carried out during the past year; the Institute has approached some 250 international organisations, asking for detailed information regarding their documentation centres, their working, and their relations with users. Similar information has been sought from important national unions of documentary information, which are not yet very numerous.

The Institute will also endeavour to promote the formation of central organisations in each country embracing the existing centres, on the lines of the "Union française des Organismes de Documentation" and the "Council of Learned Societies" in the United States. It will remain in touch with the institutions concerned with this most important problem of intellectual organisation, for the enquiry in which it is now engaged is to serve as a basis for continuous work. It would appear that the true solution of the problem lies in the creation of specialised centres, well equipped and capable of giving information as to the exact situation in regard to the branches of science with which they deal, as well as in a rational division of labour and a methodical establishment of an international understanding between the various centres.

Reports.

Following the Annual General Meeting reports were received from the following organisations whose work is connected with and of special interest to members of ASLIB. In addition, ASLIB has received from Dr. Adolf Jürgens, of the Reichstauschstelle im Reichsministerium des Innern, a list of German institutions working in connection with the Notgemeinschaft der Deutschen Wissenschaft on problems connected with German Raw Materials and the Distribution of Population. This list can be seen on application to the ASLIB Office.

THE NATIONAL CENTRAL LIBRARY.

Report from Colonel L. Newcombe. The past year has been one of marked and interesting development. The new building which was completed in the summer of 1933 was opened on November 7th by His Majesty the King. Reference to that occasion, with an account of the general work of the Library, has been made in *ASLIB Information*, No. 19, March, 1934, pp. 2-3.

Although normal work was somewhat retarded by the transfer to the new building and the official opening, 53,091 books were issued to libraries; an increase of 2,898. This increase is the more noteworthy as, with the development of regional systems and other forms of local co-operation, the Library is asked for a steadily increasing proportion of books which are difficult to obtain.

The Outlier Libraries have increased to a total of 139, of which 87 are special or university libraries and the remainder urban or county libraries. These libraries contain five and a half million volumes, and about 30,000 sets of periodicals. Nine years ago the Library borrowed 362 books from 8 Outlier Libraries, in 1932-33 the number was 7,023 from 114 libraries, but in 1933-34 it was 11,163 from 125 libraries; and as in 1933-34 Outlier Libraries also lent 7,730 books within their regional areas, they supplied no less than 18,893 books during the year. On the other hand, 60 special libraries which are Outliers borrowed 2,681 books as against only 997 borrowed by this group in the previous year.

The Regional Library Systems are making great headway, for not only are the five systems mentioned last year in active operation, but four other systems are now being established. When these are formed, only one other area, the south-western counties, will remain to be covered.

During the year 1,831 applications from 53 universities were successfully dealt with. 125 books were lent to libraries in 15 foreign countries, and 90 were borrowed for British libraries from 14 countries. Of the books lent, 22 were from the National Central Library's own stock, 42 from Outliers, and 61 from universities.

The extent and development of the various union catalogues is best indicated by the following figures of the approximate number of entries in each:

AT THE NATIONAL CENTRAL LIBRARY:

Outlier Libraries	75,000	
London Public Libraries	1,070,000	
University Periodicals	90,000	
Northern Regional Bureau	150,000	
West Midlands Regional Bureau	95,000	
South Eastern Regional Bureau	20,000	
		1,500,000

IN WALES:

National Library of Wales	120,000	
Cardiff Sub-Bureau	340,000	
		500,000

GRAND TOTAL, ENGLAND AND WALES

 2,000,000

The catalogues of the London Public Libraries and the University Periodicals are being compiled at the National Central Library, but by special staffs which are quite independent of the Library. The catalogues of the English Regional Library Bureaux are compiled at their respective headquarters and duplicates sent to the National Central Library. It will be seen from this brief statement that a beginning—admittedly a small one—has been made in what will in time become a great national key to all the material in the libraries of Great Britain.

The appeal for an endowment fund has not yet been issued. It is hoped that this may be possible during the present year, and that it will meet with a good response. The Library is now giving a regular and indispensable service to libraries of all kinds throughout the country, and it has established itself as an institution of national importance and deserving of more general support.

COMMISSION INTERNATIONALE DE LA CLASSIFICATION DECIMALE

Summary of a report by Mr. F. Donker Duyvis. (The full report, which includes an account of the new developments of the U.D.C., can be seen on application to the ASLIB Office.)

The past year brought with it heavy losses through the deaths of Sir Frederic Nathan, Charles Bayle, and Eugène Morel, whose strong support will be greatly missed.

BRUSSELS BUREAU.—A serious set back has to be reported in that the Belgian Government has ceased to give hospitality to the bureaux of the I.I.D. For the time being, therefore, the Brussels repertory and archives are not accessible. Although the files referring to the last full edition are practically complete in the Hague, nevertheless it is to be regretted that the files of the first edition are not available.

THE HAGUE BUREAU.—As usual, the Dutch Institute of Documentation have given their assistance for clerical work. Mr. Zwahler has assisted in preparing various classification schemes. Mr. Veen has managed the annexes to the "*I.I.D. Communications*," which serve as a supplement to the U.D.C. Manual. Correspondence of an informatory character with non-members of the Committee is constantly increasing. The so-called P.E. notes (Proposals of Extension) have reached the number of 76 and the number of expansions decided after the issue of "*Supplementa et Correctiones*" is over 7,000. For financial reasons these have not yet been incorporated in "*I.I.D. Communications*."

NEW FULL EDITION.—The most important activity is the starting of the full edition of the classification in the German language. The divisions 0, 1, and 2 are in the press and will be issued in the near future. An interesting account by Professor Krüss of the organisation of this edition is printed in *Special Libraries* of March, 1934.

SPECIAL SECRETARIATS.—The overloading of the General Secretariat makes it necessary to develop further the device of special secretariats not only with a view to the division of work, but to obtain a thorough scientific control of the classification. In order to quicken the procedure of the allotment of new numbers, collaborators are urged always to apply directly to the special secretariats and not to the General Secretariat. The addresses of the Secretariats are as follows:

Crystallography and Mineralogy: Deutsche Mineralogische Gesellschaft, c/o Dr. Sigfried Rösch, Wetzlar, Adolf Hitleranlage 1.

Meteorology: Dr. C. P. Brooks, Meteorological Office, Exhibition Road, South Kensington, London, S.W.7.

Biology and Agriculture: Dr. P. S. Hudson, Imperial Bureau of Plant Genetics, School of Agriculture, Cambridge.

Medical Sciences: Dr. J. G. Priestley, Physiological Laboratory, Oxford.

Odontology: Dr. Emile Huet, Rue Belliard 166, Brussels.

Mechanical Engineering: E. Lancaster Jones, Esq., and H. P. Spratt, Esq., Science Library, Science Museum, South Kensington, London, S.W.7.

Electrical Engineering: Postrat Dr. Friedrich Moench, Hauptstrasse 121, Berlin-Schöneberg.

Ceramics: Deutsche Glastechnische Gesellschaft, c/o Professor Dr. Salmang, Technische Hochschule, Wüllnerstrasse, Aachen.

The following additional secretariats have also been proposed:

Library Economy and other Generalities (Division 0): Bibliotheksrat Carl Walther, Technische Hochschule, Aachen.

Philosophy and Psychology: Professor Dr. Sveistrup, Cranachstrasse 16, Berlin-Friedenau.

Philology: Dr. Leppla, Rheinstrasse 55, Wiesbaden.

APPLICATIONS OF THE DECIMAL CLASSIFICATION.—The growing correspondence of the secretariat proves that the application is gradually increasing and shows that there are users, hitherto unknown, both far and near. In fact, it is a serious disadvantage that the location of users is only incidentally discovered. Contact with users is necessary, on the one hand to be able to communicate to them the latest developments of the U.D.C., on the other hand to learn their desiderata. At the very least the I.I.D. should possess a list of the institutions which publish decimalised bibliographies.

It is most desirable that the various national institutions which are federated in the I.I.D. should file the addresses of institutions which make any application of the U.D.C. This will result in concentrating the users in the national institutions and will also indirectly strengthen the I.I.D.

BIBLIOGRAPHY OF CLASSIFICATION.—Attention is again called to the bibliography of classification compiled by Paul Vanderbilt, Esq., Pennsylvania Museum of Art, Memorial Hall, Westpark Sta, Philadelphia, P.A. Those who wish to study a certain part of the classification or to prepare proposals for revision are strongly recommended to apply to Mr. Vanderbilt, who possesses data on the classification of almost every special branch of science.

UNION FRANÇAISE DES ORGANISMES DE DOCUMENTATION

Report from Monsieur Jean Gerard. U.F.O.D. has set itself two distinct tasks. On the one hand it proposes to study what may be called the general technology of documentation, with a view to perfecting the method of equipment. On the other hand, it is anxious to make documentation a useful instrument in the service of the intellectual and economic life of the country. Within the limits of these two tasks, it has studied particularly the following problems:

STYLE OF DOCUMENTS.—The facility with which a document can be indexed and classified depends upon its presentation. It is particularly important that articles published in periodicals, of which the number is so considerable, should have a uniform structure and arrangement. In order to obtain this result it is necessary that the bureaux of documentation should make their desiderata known not only to editors, but also to authors. U.F.O.D. discussed a scheme of recommendations for authors and editors, elaborated particularly from the point of view of articles on chemistry, but set out in a manner which could be applied equally to articles on other sciences and taking account of the conventions of other countries. In particular it was recognised that it would be of great value to accompany each article with a statement of conclusions and to resist the publication of the same article in several reviews.

FORMAT OF DOCUMENTS.—The standardisation of the format of documents would equally facilitate the work of indexers. U.F.O.D. is studying the different projects which exist on this subject.

The discussion emphasised the extent to which a single international scheme for centres of documentation would be desirable.

PRESERVATION OF DOCUMENTS.—The standardisation of format should be accompanied by that of the quality of paper, notably from the point of view of durability. Investigation on this subject should be undertaken and should consider equally all the constituent elements of documents of all types (cards, films, writing and printing inks, and leathers, etc.).

It was decided to create at the U.F.O.D. a committee which, continuing the work so far done by foreigners, should study:

- (1) The immediate contest against the destruction of documents.
- (2) The means of preservation in the future by the choice of materials and processes of manufacture.
- (3) The rational organisation of buildings for housing big collections of documents.

LENDING AND REFERENCE LIBRARIES.—U.F.O.D. is equally interested in the distinctions implied, but difficult to observe in practice, between lending and

reference libraries. Certain libraries, few in number but abundantly supplied, should be reserved solely for consultation on the spot, thus avoiding the risk to searchers of a useless journey, possibly from a distance. On the other hand, other libraries should have for their aim the loan of books for home reading. They should be grouped about a central lending library of the same type as the National Central Library in London, which performs such valuable service in England.

THE DIRECTORY OF FRENCH CENTRES.—This Directory, which constitutes a complete list of documentary centres existing in France, is now in the press and will appear continuously.

THE NATIONAL SCHOOL OF DOCUMENTATION.—The Committee which undertook to draw up a scheme for a national school of documentation has finished its labours. The scheme which it has submitted to U.F.O.D. defines the aims of the school in the following terms:

“To train—

- “A. Technicians having a knowledge of library economy and modern bibliography and capable of making of each library a laboratory fitted for documentary research.
- “B. Specialists trained for work in centres of documentation in each branch of knowledge and human activity.”

NATIONAL BIBLIOGRAPHY.—Realising the necessity of solving, according to modern principles, the very important problem of a national bibliography which could be considered as a truly complete review of the book production of the country, it was decided to entrust the expert consideration of the question to a committee which would include representatives of all interested parties: libraries—and in the first place the Bibliothèque Nationale—centres of documentation, and book-shops.

All this work of national organisation of documentation has not prevented U.F.O.D. from the consideration of measures which it is following for an international scheme. It devotes the greatest attention to all efforts which are made in this direction and specially to those which have the support of the International Institute for Intellectual Co-operation and the International Institute of Documentation.

CONCLUSION.—If the work in the first year of activity of U.F.O.D. had in some ways a preparatory character and tended before everything to create a solid basis for its future activities, the enterprises begun in the course of the second year may be considered as the first pillars of the edifice which U.F.O.D. proposes to construct.

THE NEDERLANDSCH INSTITUUT VOOR DOCUMENTATIE EN REGISTRATUUR

Report by Mr. J. J. Roeloffs Valk, Director of the Institute. This Institute co-operates with the Nederlandsch Instituut voor Efficiency (Dutch Management Institute).

PUBLICATIONS DURING THE RECENT YEAR:

- (1) *Repertorium Technicum* (International bi-monthly bibliography of books and of articles appearing in periodicals on technical and allied subjects), Volume III. (This volume will be closed December, 1934; a new volume will appear every year.)
- (2) *Dutch Technical Bibliography*. (Monthly in Dutch.) Appearing in the *Short Communications of the Dutch Management Institute* (monthly bulletin) Copies on slips available.
- (3) *Classificatiois Decimalis; Supplementa et Correctiones*. Extensions and corrections of the Universal Decimal Classification as fixed by the International Committee on Decimal Classification from the period 1929-32.
- (4) *I.I.D. Communicationes*. Quarterly communications of the International Institute of Documentation. Free annexes: extensions and corrections of the Universal Decimal Classification as fixed by the International Committee on Decimal Classification after 1932.
- (5) *Ir. J. P. C. van Asperen: How to Make Photographic Copies*. (In Dutch and has an article in the *I.I.D. Communicationes*, in German, see sub. 4.) A survey of modern photographic copying methods with 45 illustrations.

- (6) *Annual Report for the Year 1933.* (In Dutch.)
- (7) *H. Keegstra: Photographic Reproduction at the Municipal Transfer Office in Amsterdam.* (In Dutch.)

PUBLICATIONS IN PREPARATION :

- (8) *Abbreviated Universal Decimal Classification.* (In Dutch.) Will appear shortly.
- (9) *Union List of Scientific Periodicals.* The compilation of a repertory of periodicals available in public and in principal private libraries at the Hague is almost finished. This manuscript repertory will be published in the form of a guide if the necessary funds are available.
- (10) *List of Dutch Documentary Sources.* The first edition of this list of sources of bibliographic data is in preparation.
- (11) *A.B.C. Rules.* (In Dutch.) Rules for the alphabetical classification will be issued shortly in co-operation with the Head Committee of Standardisation in the Netherlands.

OTHER ACTIVITIES :

- (1) *Committee on Copyright of Photographic Copies.* A report of the Dutch Committee as regards the Dutch standpoint on copyright of photographs of articles was sent to the Committee established by the Institut International de Documentation.
- (2) *Standardisation of Periodicals.* The Head Committee for Standardisation in the Netherlands will on request of the Institute publish shortly the following standards which have now been fixed :
 - (i) Standards for abbreviations of titles of scientific periodicals.
 - (ii) Standards for foot-titles on the front page of periodicals.
- (3) *Information Department and Service for the Supplying of Publications.* Supplying international bibliographical data on subjects wanted. Supplying copies (photographic) of publications non-available in the Netherlands. Supplying information on the Universal Decimal Classification. The Institute, having its headquarters in the Dutch Patent Office, makes regular use of the Library and bibliographies available in said office.
- (4) *Management Research Group on Documentation.* (In co-operation with the Dutch Management Institute.) A collaboration of about thirty important Dutch enterprises to improve documentation and registration in the enterprises of its members and to prepare publications in this field.

NOTGEMEINSCHAFT DER DEUTSCHEN WISSENSCHAFT.

Report from Fraulein Dr. von Busse. During 1933-34 the Notgemeinschaft der Deutschen Wissenschaft has been able to carry on its work for the German Scientific Libraries. In addition to the subsidy given to the University Libraries, a further subsidy has now been given to the Libraries of the Technical Schools, which have thereby been enabled to obtain the most valuable foreign periodical literature.

In order to ensure a wide scope of activity in spite of shrunken means, a scheme has been worked out for the 'Technical Schools' Libraries, similar to that which the Notgemeinschaft has already for many years carried out in order to obtain foreign works for the University Libraries.

The task of collecting specialised literature has been allotted to the schools in the following manner: Technical School, Dresden: Thermodynamics; Berlin: Architecture, Electrotechnics (Radio and Television); Braunschweig: Electrotechnics and Technical Physics; Danzig: Aeronautics, Welding, and Road Construction; Hanover: Civil Engineering; Karlsruhe: Chemical Engineering; Munich: Organic Chemistry, Physics, Electrotechnics, Telephony, and Telegraphy; Breslau: Mechanical Engineering, Protection of Ancient Monuments, Hydraulic Engineering, and Irrigation in Eastern Countries; Aachen: Mining and Metallurgy.

The foreign exchange of literature has increased satisfactorily. Besides the regular exchanges, the Notgemeinschaft has, during the past year, been able to get together a considerable collection of books, donated for the purpose of building up again the destroyed Oriental library in Shanghai.

To this collection has been added a catalogue in slip form, arranged under bibliographical headings, in systematic and alphabetical order, so that the books constitute a usable library immediately on their receipt.

The exchange of duplicates and the circles for inter-lending between German libraries have been of greater importance than in previous years, since, with their reduced incomes, the libraries must depend more upon these methods to enlarge their stock without expenditure.

VERMITTLUNGSSTELLE FÜR DEN TECHNISCH- WISSENSCHAFTLICHEN QUELLENNACHWEIS

Report from Dr. G. Freitag. The Deutsche Verband Technisch-Wissenschaftlicher Vereine (the Association of German Engineering and Scientific Societies), which in the year 1929 established the Vermittlungsstelle für den Technisch-Wissenschaftlichen Quellenachweis (Bureau for Information on Sources of Scientific and Engineering Literature), went into liquidation on August the 1st this year, following the reorganisation of engineering in Germany. However, the whole of its work—and consequently also the work of the Information Bureau—will be continued by the new head organisation of German engineering and scientific societies, the Reichsgemeinschaft der Technisch-Wissenschaftlichen Arbeit.

In recent years enquiries which have come to the Vermittlungsstelle to be forwarded to the source of the information have diminished in number. This tendency has been due to the fact that, with the circulation by the Deutsche Verband Technisch-Wissenschaftlicher Vereine of printed matter concerning the Vermittlungsstelle, the enquirer has chosen more and more frequently the direct method of approach to the source of the information required. The same tendency has been noted during the last year.

From September the 1st, 1933, to August the 15th, 1934, we received 62 enquiries, covering the various branches of engineering, distributed as follows :

Engineering Science in general, including Mechanical Engineering .	19
Iron, Steel, and Non-ferrous Metals	3
Electrical Engineering	7
Chemistry	4
Transportation	4
Miscellaneous	25
TOTAL	62

The distribution of the type of enquirer is as follows :

Individuals	40 = 64.6 per cent.
Firms	15 = 24.2 per cent.
Associations	5 = 8.0 per cent.
Authorities	2 = 3.2 per cent.

However, the relative proportions of the enquiries concerning the different branches of engineering and the type of enquirer remain about the same. Altogether, since its establishment in 1929, the Vermittlungsstelle has dealt with about 725 enquiries : 161 of these enquiries came from abroad, a proportion of 22 per cent.

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NOTE.—*This is not a complete subject index to the contents of the papers, but only to the names of speakers and the titles of papers, etc. Copies of the ten previous Reports can be obtained from the office of the Association.*

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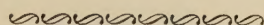
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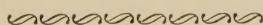
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